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The Newspaper of the Industry

Air Conditioning & Refrigeration News

Production Tools for Victory

An International Institution — Subscribers All Over the World

Technical Governmental

'Written To Be Read on Arrival'

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OCT. 26, 1942

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IN THIS ISSUE

'The Priorities Quiz'

Starting with this issue AIR CONDITIONING & REFRIGERATION NEWS offers a new feature, "The Priorities Quiz," in which an effort will be made to answer questions from subscribers who have problems of priorities interpretation and procedure. We think this new department will be helpful to many readers in solving problems they may encounter any day what with the many government regulations that confront them.

This week's "Priorities Quiz" will be found on page 15.

* * *

Facts on Service Shortage

Last week's NEWS story entitled "Survey Shows Big Food Spoilage Losses as Refrigeration Service Feels Shortage of Men, Parts" has caused reverberations even in busy Washington. On pages 6 and 7 of this week's issue of the NEWS is a more complete breakdown of the survey and questions which were asked and answers of the Detroit refrigeration service contractors. It provides a graphic picture of just how bad the service picture is.

* * *

Answering the Skeptics

The editors of the NEWS, industry sales executives, and other soothsayers have made a lot of noise about how the small commercial refrigeration dealer can stay in business if he seizes the opportunities around him. To which some skeptics in the field have flung back: "Name one." Well, we are naming one in an article about Ray Winther of San Francisco, first instalment of which is on page 16 of this issue.

* * *

Are You Crazy?

The service manager of one of the larger companies in the business (not General Electric) has commented upon the "Servicing the G-E Scotch Yoke Refrigerator Machine" series of articles appearing in the NEWS as follows: "Any service man who isn't cutting out this material and putting it into his scrapbook is crazy. That is wonderful stuff." See pages 12 and 13 for more of this for your notebook.

Further Study of Civilian Supply Ordered by Nelson

WASHINGTON, D. C. — Further steps to tighten up the civilian economy and to maintain it at necessary levels are being taken by Donald M. Nelson, WPB chairman.

Mr. Nelson has directed the staff of the War Production Board to make up a list of all the things that civilians need—clothing for individuals, machinery for mines, transportation for the community—and similar things—so that definite plans can be made to supply necessities.

"The things for the civilian in the war-time economy will be programmed and scheduled just like the Army and Navy," he said.

Asked about civilian items which might not appear on such a list of essentials, he said the supply of such items would be "sloughed off."

However, he added, "there aren't many more to be eliminated."

Nelson said that considerable progress had been made and would continue to be made in standardizing civilian goods in order to conserve both materials and manpower.

He calculated that more than one of every three persons in America eventually would participate directly in the war program—through service in the armed forces, employment in war plants or performing work essential to the war effort.

Silica Gel Order Amendment Aids Small Purchasers

WASHINGTON, D. C.—Monthly orders for Silica Gel totaling 125 pounds or less—probably enough to meet ordinary needs of jobbers—no longer require authorization by the War Production Board for delivery or acceptance, by terms of Amendment No. 1 to General Preference Order M-219, issued by the WPB Oct. 16.

By the same amendment, the board also ruled that no authorization is needed for delivery or acceptance of Silica Gel if it is incorporated in any finished product or subassembly, such as a dehydrator.

Producers wishing to deliver orders aggregating more than 125 pounds per month must still request authorization, however, specifying in their application those customers who individually require more than 125 pounds per month, and the total amount of Silica Gel on which delivery-authorization is requested.

Form PD-600 is to be used for such applications.

(Concluded on Page 2, Column 2)

Federal Reserve Rules Put Clamp On Demonstrators

CHICAGO—New Federal Reserve regulations on instalment sales and charge accounts, embodied in Amendment No. 9 to Regulation W, are announced by the board of governors of the Federal Reserve System.

Effective Oct. 26, amendment has been made as follows:

1. By adding to Section 4 entitled "Instalment Sales" the following new subsection:

(e) "Approvals," "Demonstrators," Etc.—In case a listed article is delivered in anticipation of an instalment sale of that article or a similar article (such as a delivery "on approval," "on trial," or as a "demonstrator"), the Registrant shall require, at or before the time of such delivery, a deposit equal to the down payment that would be required on such an instalment sale.

2. By adding to Section 5 entitled "Charge Accounts" the following two new subsections (g) and (h), and by changing subsection (f) to read as follows:

(f) "Authorization" of Small Items.

(Concluded on Page 2, Column 1)

Right of Oil Dealer To Break Lease Denied

NEW YORK CITY—An oil company as a tenant cannot break a lease because of the current federal regulations and curtailment of the sale of gasoline and tires, it was ruled by State Supreme Court Justice Edward B. Koch.

The Robitzek Investing Co., Inc., landlord, instituted the action against the Colonial Beacon Oil Co., tenant, concerning a gas station.

Cancelation and release from obligation if the leasee is prevented from using all or any part of the property as a service station, or if the use of the premises shall be in any manner restricted for any of the purposes stated is provided for in a section of the lease involved.

The orders of federal war agencies affecting the sale of gasoline and tires "do not deprive the defendant of the 'use' of the premises for the purposes intended. If the restriction was upon the sale of all gasoline or all tires, tubes, and casings, a different situation would present itself," the court ruled.

New Tax Law May Cover Some Types of Commercial Cabinets

WASHINGTON, D. C.—While the wording of the amended Section 3405 of the 1942 Internal Revenue Bill as passed by Congress would seem to eliminate the 10% tax on commercial refrigeration, it is the opinion of some refrigeration industry tax experts that this section may be "interpreted" to include certain kinds of commercial refrigerators.

For example, it is thought that the term "refrigerators" as used in Section 3405 of the tax bill may easily be interpreted to include almost types of reach-in refrigerators.

Final interpretations of the law will, of course, rest with the Internal Revenue commissioners. (Text of amended Section 3405 was published in the Oct. 19 Bulletin issue of AIR CONDITIONING & REFRIGERATION NEWS.)

Brunner Will Get Army-Navy 'E'

UTICA, N. Y.—The Brunner Mfg. Co. and its employes have been awarded the Army-Navy "E" for unusually high achievement in the production of essential war material, G. L. Brunner, president, announced last week.

For many years the company has manufactured here air compressors and condensing units for refrigeration. Since conversion to war work, states Mr. Brunner, the plant's peak of production has reached a new high level.

Plans for formal presentation of the Army-Navy "E" will be made public soon, he says.

EH & FA Disbanded By Government

WASHINGTON, D. C.—Disbandment of the Electric Home and Farm Authority, Federal agency established in 1935 to finance the distribution and sale of electric and gas appliances, primarily in rural areas, was effected by a Presidential Executive order recently.

The production of appliances had been so restricted by the war that this financing was no longer needed and no more loans would be made, President Roosevelt told a press conference.

Consequently, he said, the remaining functions of the agency are being turned over to the Reconstruction Finance Corp. for liquidation.

RFC To Make Loans on Frozen Refrigeration, Air Cooling Stocks

Dealers' Stocks of New & Completed Commercial Units Are Eligible

WASHINGTON, D. C.—All agencies of the Reconstruction Finance Corp. were authorized Oct. 10 to purchase, or make loans against, stocks of industrial and commercial refrigerating and air conditioning machinery and equipment, frozen in hands of dealers May 15, 1942.

Such items became eligible for purchase or to be security for loans under section 5h of the Reconstruction Finance Corp. Act as amended.

The authorization was reported to RFC agencies by A. T. Hobson, secretary of the board of directors, upon direction of the board.

In June and July of this year, RFC was permitted by the same act to make loans against and purchase other specified rationed articles.

Of the refrigerating and air conditioning material now included, only new and completed units may be accepted as security for loans, states the October authorization. The first disbursement on account of the loan, as explained by Mr. Hobson, cannot exceed the net cost of the equipment against which the loan is to be made, plus the actual transportation cost to the place of business of the dealer and a reasonable allowance to cover expense of caring for the equipment.

Only equipment eligible for loans in the following instructions are eligible for purchase, according to the order.

Details of the instructions include:

1. **ELIGIBILITY:** A loan may be made to any dealer, a substantial part of whose business consists of dealing in and servicing industrial and commercial refrigerating and air conditioning machinery and equipment, provided such dealer was regularly engaged in the business of offering such machinery and equipment for sale as of June 1, 1942.

Industrial and commercial refrigerating and air conditioning machinery and equipment as herein used shall mean any type of machinery, equipment or other apparatus [except a domestic mechanical refrigerator (which shall include any refrigerator for household use which operates either by compression or absorption and which has a net capacity of 16 cubic feet or less (National Electric Manufacturing Assn. rating) but shall not include any low temperature mechanical refrigerator designed for the storage of frozen foods or for the quick freezing of food where the low temperature compartment customarily operates at a temperature of not higher than 15° above zero F. and contains 75% or more of the total refrigerating space in the refrigerator) and except a domestic ice refrigerator (which shall include any non-mechanical ice chest or ice box for home use)] which is primarily designed to lower the temperature of matter, or to regulate the temperature or humidity of air, by mechanical, chemical or physical means, and includes all insulated enclosures, materials, parts, implements and devices used with such machinery, equipment or apparatus in causing it to perform its function of refrigeration or air conditioning.

Loans shall be made only against **new and completed units** of such industrial and commercial refrigerating and air conditioning machinery and equipment and no loan shall be made against such machinery and equipment that is not in salable condition or that has suffered substantial damage or deterioration as the result of negligence or lack of proper care.

The following items, which the

(Concluded on Page 2, Column 4)

'Victory Plan' for Stove Output Is Near Collapse

NEW YORK CITY — The Victory stove output plan, first concentration-of-industry program adopted by the War Production Board, was reported near collapse last week at a recent conference of the eastern division of the Institute of Cooking and Heating Appliance Manufacturers. Shortage of raw materials and failure of the Office of Price Administration to approve prices were given as chief causes of the program's imminent break down.

Of 150 companies theoretically permitted to manufacture the stripped models, only about six in the eastern section have actually gotten into production since Aug. 1, the effective date of the industry's limitation order L-23-C, the conference revealed.

According to Samuel Dunkel, editor of the official organ of the institute, the purpose of last week's gathering, one of a series of regional meetings, was to organize the industry to impress upon the WPB this increasing shortage of stoves, particularly gas ranges and coal heating stoves, and to attempt to obtain more material.

"The demands of war production have so diminished stocks of steel, iron, and other metals," said Mr. Dunkel, "that the supply of such metals for the manufacture of even the minimum quotas set up in Order L-23-c is very small.

"Up to now, the preference ratings allotted under the Production Requirements Plan for stove production have been so low that many manufacturers who are planning to make Victory stoves have now abandoned their plans," he continued.

The lot of the stove manufacturers was made even harder, said the institute editor, when requests for steel under the PRP for the fourth quarter were cut 25 to 40%.

In his second charge that the OPA had been extremely slow in approving prices of new models, Mr. Dunkel admitted that in some cases the manufacturers were at fault by not meeting OPA requirements, and therefore not complying with the order when asking price approval.

When L-23-c was issued on May 13, he said, the WPB estimated that 1,200,000 new stoves were in existence, and that an additional 800,000 would be made in the period up to July 1. Since that time, according to the institute, the production of Victory models has been negligible.

Triple Damages Awarded in OPA Price Case; Other Prosecutions Planned

ROCHESTER, N. Y.—Payment of $483.50 by a second-hand dealer to a customer who sued for three times the amount he was allegedly overcharged for a second-hand refrigerator was ordered by Monroe County Judge William C. Kohlmetz.

Benjamin Levine, operator of a store, was ordered to pay the $483.50 to Rev. Joseph M. Harte, rector of St. George's Episcopal Church for the alleged overcharge of $113 on a used refrigerator.

Remarking on the suit and a second brought under the section of the price control law which allows suit for triple damage, Francis K. Remington, chief attorney for the Office of Price Administration, said:

"It is certainly a very dangerous practice for sellers to lay themselves open to multitudinous suits."

FRESNO, Calif. — Charges have been prepared for filing in the United States District Court against three Fresno furniture stores accused of violating ceiling price regulations on new and used refrigerators, it was announced by Fred H. Kurz, district manager of the OPA.

Each is accused of selling merchandise at prices higher than the OPA ceilings.

The excessive prices charged amounted to several thousand dollars and the concerns have made "voluntary contributions to the government in the amount of the overcharges," according to W. D. Cannon, attorney for the OPA.

Cannon said they will be accused of failing to keep proper records of their sales and failing to post ceiling-price notices.

New Federal Reserve Rules Tighten Up On Demonstrators

(Concluded from Page 1, Column 2)

—In case a Registrant makes a charge sale of a listed article, the cash price of which is $5 or less, he shall not be deemed to have violated Section 5 (b) if the person authorizing such sale on behalf of the Registrant acts in good faith without knowledge that the customer's charge account is in default, provided the Registrant, promptly upon discovery that such charge account is in default and in any event within 15 days from the date of sale, makes a request of the customer that he either return the article or else pay for it in full immediately.

(g) Small Defaults.—A charge account shall not be deemed to be "in default" within the meaning of Section 5 (c) or 12 (m) if the amount in default is less than $2.

(h) "Approvals," "Demonstrators," Etc.—When a charge account is in default, the Registrant shall not deliver any listed article to the obligor in anticipation of a sale of that article or a similar article (such as a delivery "on approval," "on trial," or as a "demonstrator"). When a charge account is not in default and the Registrant makes such a delivery of any article, the delivery (unless it is in anticipation of an instalment sale) shall be treated for the purposes of this Regulation as a charge sale made on the date of the delivery.

New Order Allows Sale of Silica Gel To Small Users without Priority Aid

(Concluded from Page 1, Column 2)

Complete terms of the amendment follow:

1. By striking from paragraph (b) (1) of said § 3065.1 the words and letter "paragraph (c) hereof" and inserting in lieu thereof the words and letter "paragraph (e) hereof."

2. By changing the designation of paragraphs (c) (d) and (e) of said § 3065.1 to "(e)," "(f)," and "(g)."

3. By adding two new paragraphs to said § 3065.1, designated paragraphs (c) and (d) respectively as follows:

TEXT OF EXEMPTIONS

(c) **Small order exemption.** The specific authorization provided for in paragraph (b) (1) hereof, shall not be required with respect to the delivery by any person of one hundred and twenty-five (125) pounds or less of Silica Gel to any one person in any one month, or to the acceptance of delivery by any one person in any one month, from all sources, of one hundred and twenty-five (125) pounds or less of Silica Gel. Each person desiring to make small order deliveries of Silica Gel pursuant to this paragraph (c) shall apply for authorization to make small order deliveries pursuant to paragraph (e) (2) (ii) hereof, and the aggregate amount of small order deliveries made by any such person during any one month shall not exceed the amount of such deliveries which he is specifically authorized to make, provided, however, that authorization to make small order deliveries pursuant to this paragraph (c) shall not be required with respect to small order deliveries by any one person where the aggregate amount of such deliveries during any one month does not exceed one hundred and twenty-five (125) pounds of Silica Gel.

(d) **Special exemption.** The specific authorization provided for in paragraph (b) (1) hereof, shall not be required with respect to the delivery or acceptance of delivery of any Silica Gel incorporated in, or forming a part of, any finished product or subassembly.

4. By changing the designation of paragraph (e) (2) (ii) of said § 3065.1 (which paragraph was designated paragraph (c) (2) (ii) prior to this amendment) to "(e) (2) (iii)."

5. By adding a new subparagraph to paragraph (e) (2) of said § 3065.1 (which paragraph was designated paragraph (c) (2) prior to this amendment) designated paragraph (e) (2) (ii) as follows:

(ii) **Column 1.** If authorization to make small order deliveries under paragraph (c) hereof is requested, insert "Aggregate Small Order Deliveries" in column 1 after completing the list of customers requiring in excess of one hundred and twenty-five (125) pounds of Silica Gel and specify in column 4 the aggregate amount of small order deliveries requested to be authorized.

Certain alloys are more suitable for riveting, yet unless temperatures are maintained between —50° F., depending upon the alloy, rivets would harden too much for use.
ACCURATELY CONTROLLED
Rivet Coolers
PERMIT MORE SUITABLE ALLOYS

☆ ☆ ☆ ☆ A NEW WAR PRODUCTION MACHINE TOOL FOR

● PORTABLE RIVET COOLERS ● CONDITIONING TOOL AND DIE ROOMS ● COOLANT COOLING ● OPTICAL EQUIPMENT MANUFACTURING ● HEAT TREATMENT ● COOLING ELECTRODES FOR SPOT WELDERS ● MANY OTHER OPERATIONS

ACCURATELY controlled portable coolers permit use of alloys more suitable as rivets. This is another way in which accurately controlled refrigeration can increase the war production capacity of existing machinery. To perform its function with the most effectiveness, refrigeration, of course, must be accurately controlled. You can do this better with M-H Controls . . . Minneapolis-Honeywell Regulator Company, 2807 Fourth Avenue S., Minneapolis, Minn.

MINNEAPOLIS-HONEYWELL REFRIGERATION Control SYSTEMS
THE POLARTRON SYSTEM OF FROST-FREE REFRIGERATION

RFC to Make Loans to Dealers on Frozen Refrigeration & Air Conditioning Stocks

(Concluded from Page 1, Column 5)

War Production Board permits dealers to sell and transfer, are not included within the definition of industrial and commercial refrigerating and air conditioning machinery and equipment: Carbonated beverage dispensers, bottled beverage coolers (whether of reach-in, counter, or self-contained type), low temperature mechanical refrigerators having a net capacity of eight cubic feet or less designed for the storage of frozen foods or for the quick-freezing of food, and self-contained air conditioners (room coolers) and window type air conditioners having a rated capacity of less than two horse power or a refrigerating capacity of less than two tons (American Society of Refrigeration Engineers' Specifications.

TYPES OF EQUIPMENT

Soda fountains without facilities for bulk ice cream storage (fountainette type) florist boxes, florist display cases, ice cream cabinets which are not to be used aboard ship, non-mechanical water coolers (whether of the iced bubbler or bottled type) having an ice capacity of less than 25 pounds, evaporative coolers rated at 2,000 c.f.m. or less at the discharge side of the unit, refrigerated display cases of all types.

Low temperature mechanical refrigerators having a net capacity of more than eight cubic feet but not over 24 cubic feet to be used for the freezing and storage of food on a farm (farm freezers), refrigerated vegetable display cases, refrigerated vending machines, and immersion (drop-in type) milk coolers for use on the farm, complete the list of excluded items.

However, self-contained or remote draft beer dispensers, including storage cabinets or water chilling devices, or both, which are a part of the dispensing system shall be considered as eligible items of industrial and commercial refrigerating and air conditioning machinery and equipment eligible for loans pursuant to these instructions.

AMOUNTS OF LOANS

2. **DISBURSEMENTS:** The initial disbursement on account of the loan shall be in an amount not in excess of the net cost (exclusive of transportation cost) to the dealer of the industrial and commercial refrigerating and air conditioning machinery and equipment against which the loan is made, plus the actual transportation cost to the place of business of the dealer (which cost shall be, in the opinion of agency manager, reasonable). In addition, the initial disbursement may include a reasonable allowance for the payment of the cost of storage, handling, servicing, insurance, carrying charges and other expenses incurred in connection with the care and preservation of the industrial and commercial refrigerating and air conditioning machinery and equipment against which the loan is made for each monthly period from May 15, 1942 or the date of receipt of the industrial and commercial refrigerating and air conditioning machinery and equipment by the dealer, whichever is the later, to the date of the initial disbursement.

Such allowances shall be only in such amounts as the agency manager shall deem reasonable having in mind the kind of storage, handling and servicing given to such equipment, the amount and nature of insurance carried and other carrying charges and expenses incurred in connection with care and preservation.

The amount of such allowances for each monthly period is herein called the "increment." Additional disbursements may be made from time to time up to the maturity date of the note evidencing the loan not more frequently than monthly, each in the amount of the increment.

The security instrument or instruments obtained in connection with the loan should be so drawn as to cover such additional disbursements and such steps should be taken by Agency Counsel at the time of each such additional disbursement as may be necessary to assure that the lien of the RFC on the industrial and commercial refrigerating and air conditioning machinery and equipment concerned secures such additional disbursement to the extent such is practicable and possible under local law.

Further requirements for making loans against the frozen stocks specify that the dealer must carry adequate fire and burglarly insurance, and that he must agree to storage and servicing arrangements satisfactory to the agency manager.

Purchase of refrigerating and air conditioning machinery and equipment will be made according to instructions given by Mr. Hobson on July 17, 1942, when RFC agencies were authorized to buy certain other rationed articles, states the new authorization of purchase.

APPLICATIONS

Application for such loans may be made by letter, or on regular forms that may be obtained from the loan agency or the special representative of the RFC serving the district in which the applicant is located.

RFC loan agencies are located in the following cities:

Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Charlotte, N. C.; Chicago; Cleveland; Dallas, Tex.; Denver, Colo.; Detroit; Helena, Mont.; Houston, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Little Rock, Ark.; Los Angeles, Calif.; Louisville, Ky.; Minneapolis, Minn.; Nashville, Tenn.; New Orleans, La.; New York City; Oklahoma City, Okla.; Omaha, Nebr.; Philadelphia; Portland, Ore.; Richmond, Va.; St. Louis; Salt Lake City, Utah; San Antonio, Tex.; San Francisco, Calif.; Seattle, Wash.; Spokane, Wash.

Service Tool Sales Allowed Only on A-9 & Up Ratings

WASHINGTON, D. C. — Restrictions on sale, delivery, and manufacture of hand service tools were tightened by the War Production Board Oct. 10 in an amendment (No. 2) to General Preference Order E-6.

The new ruling limits sales and deliveries of hand service tools by manufacturers to purchase orders rated A-9 or higher. At the same time, it reduces the list of series of alloy steel that may be used in production of the tools.

Implements covered by the order include chisels, hammers, industrial hand files, pliers, punches, screwdrivers, snips, and wrenches.

As first issued, General Preference Order E-6 allowed manufacturers to sell and deliver hand service tools on purchase orders rated as low as A-10.

The original order also listed eight series of alloy steel which could be used in manufacturing the tools, against the five series given in the October amendment. A saving of critical alloying elements, particularly molybdenum, should result from this limitation.

According to the amendment, however, a producer may use any alloy steel in a series not listed, provided it was received before Nov. 1, 1942, for use in making hand service tools.

Furniture Branch Put Under Durable Goods

WASHINGTON, D. C.—Consolidation of the Furniture Industry Branch with the Consumers' Durable Goods Branch is announced by A. I. Henderson, deputy director general for industry operations.

The new unit has been designated as section "H" of the Consumers' Durable Goods Branch and will handle all WPB problems concerned with furniture and bedding. Announcement of the head of the section will be made shortly.

All personnel, funds, records and equipment of the abolished branch are being transferred over to the new section.

It was explained that with production of most metal furniture due to cease on Nov. 1, under provisions of orders issued by the old branch, activities of the branch had reached the point where its operations could be handled adequately through consolidation.

HOW THE REFRIGERATION AND AIR CONDITIONING INDUSTRY IS HELPING TO SPEED THE WAR EFFORT

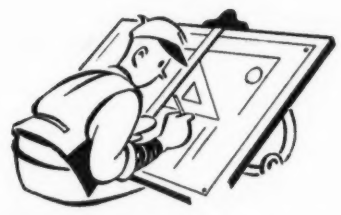
WHEREVER AMERICANS are fighting or working to win the war, refrigeration is helping them do a better, *faster* job! It is preserving the foods they eat. It is guarding them against disease. It is speeding industrial processes . . . providing badly needed equipment for war production!

But that's not all the Refrigeration and Air Conditioning Industry is doing to help win the war! Realizing that *waste* might seriously hamper America's war effort, the Industry planned and prepared the "Victory Program"—a mighty movement by which the Industry as a whole could serve its country.

This purely voluntary program challenged every single member to do his utmost to CONSERVE vital materials, machines and manpower. The response to this challenge has been magnificent! Today, the entire Industry is working wholeheartedly together to carry out the pledge of the "Victory Program"—to SAVE . . . SIMPLIFY . . . SUBSTITUTE.

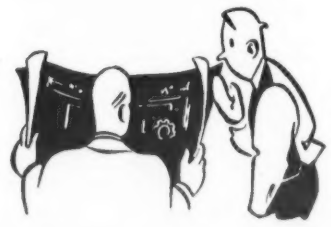
This space contributed by
SERVEL, Inc.
IN THE INTEREST OF THE "VICTORY PROGRAM"

HERE IS THE 6-POINT PROGRAM FOR VICTORY

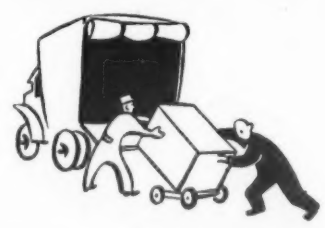


1 PRODUCT DESIGN. There are a dozen ways product designers are helping to conserve metals and materials. They're eliminating "extras" from their designs, increasing the use of essential parts, changing basic designs to permit the use of non-critical materials. In these and many other ways, designers are assisting in the Industry's "Victory Program."

2 PRODUCTION. The men and women on the production lines are devoting all their energies to the support of the "Victory Program." Among many other things, they have reduced rejections to a minimum, they are minimizing scrap, making one tool do more than one job, saving energy and material by improving processes, and saving man hours by carefully adhering to all safety regulations.

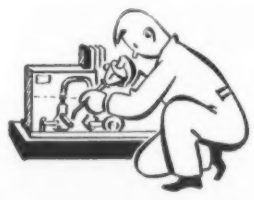


3 APPLICATION ENGINEERING. Application engineers have found many ingenious ways to conserve for victory . . . and they're constantly finding more! For example, they are carefully checking all available possibilities for equipment location in relation to required utilities, they are installing with a view to *function,* rather than refinement or convenience, and they are reducing *all* installation materials to the absolute minimum.



4 INSTALLATION. Those who install refrigeration and air conditioning equipment are squarely behind the "Victory Program." Today their work is proceeding with fewer interruptions, fewer wasted hours. They are substituting non-critical for critical materials in every possible way. They are simplifying installations, utilizing all leftover pieces in future installations, and instructing users in the essentials of maintenance.

5 SERVICE. Service engineers know that they must keep machines operating at peak efficiency in order to help America conserve vital materials. To put this into practice, they are doing such things as replacing only defective or worn-out parts, reducing corrosion, salvaging scrap, conserving refrigerants, sharing surplus parts and instructing users in the proper care of equipment.



6 MAINTENANCE. In support of the "Victory Program," maintenance men are carrying out two objectives. First, they are impressing upon users the importance of frequent, careful attention to their equipment; and, second, they are issuing instructions which will enable users to perform the simple operations that keep equipment operating at maximum efficiency, with a minimum waste of energy.

What Dealers Are Doing About Merchandise Shortages

Heat Conservation Center Appears in Housewares Dept. of Eastern Store

NEW YORK CITY—Heat conservation devices are being promoted by several stores here, stimulated by the current demand for fuel conservation.

A "Heat Conservation Center" has been established in the housewares department of one of the stores. Here all kinds of equipment used in making fuel last longer or prolonging the life of a radiator, stove, or boiler are grouped together.

Samples of items are attached to display panels which are arranged around a column in the department. Two of these sets are ample to show the smaller equipment and water jackets and the larger items are shown on the floor.

The focal point at the center of each panel is the caption "Save heat and we'll show you how."

Another large department store here is in the midst of constructing a similar type of promotional display in which the theme is "More heat from less coal," and many of the same items are shown at this store.

The majority of items are from paint and hardware sections. In the display are 17 samples of weather stripping including "Nuway" zinc and felt at $1 for a 20-foot roll (Macklanburg Duncan), "Easy Aid" chimney sweep at $1 for three pounds (G. N. Coughlin, S. Orange, N. J.), "No Drip" plastic cork coating for insulation at $1.90 ½ gallon (J. W. Mortell Co.), "Ebonol" at 75 cents a gallon, a winterproof roofing (Sherwin Williams), Sapolin radiator and range enamel at $2.05 a quart, Sapolin deck paint for basements at $2.20 a half gallon.

"Reflectofoil," the metalic type paper which reflects heat back into the room when placed on the wall behind radiators, $1.95 for a 10-foot roll.

A caulking compound at $2.50 a gallon (Seal-Tite Caulking Co.). A cleaning compound at $2.59 a can for cleaning sediment and scale from the inside of boilers.

An assortment of thermometers, furnace clocks, humidifiers, and Fiberglas Mineral wool insulation will also be part of the display.

Women Graduated By Service School In Cleveland

CLEVELAND — A refrigeration service school that graduated both men and women trainees after two weeks of intensive study was held here recently by Warren W. Farr, president of Refrigeration Maintenance Corp., authorized Cleveland service agency for Norge appliances.

The school program was divided into a series of five periods of instruction in elementary principles of refrigeration, offered to all students, most of whom were entirely new to the field; and a week of actual shop practice, offered to a selected group of trainees.

The first week's sessions were held for two and a half hours each evening, Monday through Friday. During these classes, various refrigerants, refrigerating mechanisms, and mechanical parts were explained and demonstrated by E. H. Dalton, of the Norge national service department. Jack Cameron, national service manager, also took part in the first week's program, discussing the relationship of good food and morale, and pointing out the importance of service organizations in keeping appliances in good repair.

When the course was completed, six men and two women graduates joined Mr. Farr's staff, and two men and two women graduates were employed by another local service organization.

How to Stay in Business

Ontario Hardware Assoc. Gives Its Members Many Suggestions for Keeping Open

MILWAUKEE, Wis.—Some "general hints for the retailer" on how to stay in business, originating with the Ontario Retail Hardware Association of Canada, have been sent out in bulletin form by the Wisconsin Radio, Refrigeration & Appliance Association to its membership.

Some of the suggestions:

Conserve items that cannot be readily replaced.

Build up sales of lines that can be replaced more easily.

Consider carefully any substitute lines that you can handle and sell at a profit.

Give manufacturers any ideas you may have for substitute lines that you consider could be sold profitably through the trade.

Check into possibilities of handling "agency" lines that you can sell profitably to your customers without carrying in stock.

With new merchandise in many lines not now available, check carefully into the possibilities of opening up a re-sale goods department to include buying and selling of articles that have come into disuse or for other reasons are no longer required by your customers.

Consider repair services in your customers' homes if you can do them profitably.

Watch for dormant stocks (white elephants) within your own store that someone else could sell or use to advantage.

Handle dormant stocks that you may hear about and could sell to advantage.

Start a rental service for your customers of articles that they are not desirous of purchasing because their use is only needed occasionally.

Set up a list of rules that you expect your staff to follow. Make someone on your staff responsible for waste conservation. To provide competition, let each clerk serve one week at a time. Start a list of resolutions such as:

(a) I will make this last as long as possible.

(b) I will not waste it.

(c) I will salvage everything that can be used again.

Cut down your overhead to the lowest possible minimum, without, of course, affecting your efficiency.

Reduce credit sales to absolute minimum, not only to avoid loss, but to save clerical time and paper.

Get together with the merchants of your district in an attempt to shorten store hours to save wear and tear, cut down lighting costs, reduce sales help, etc.

Sublet space within your store or any excess warehouse space if you find you are occupying too much room for your present requirements.

As the demand for labor increases it is patriotic to look out now for probable replacements in your staff, with:

(a) Older male help.

(b) Female help.

Eliminate use of special advertising such as programs, blotters, handbills, etc., that have no particular advertising value.

Discontinue giving away merchandise for prizes, donations, etc.

Do not run the risk of "markdowns" by faulty storage, cutting and handling.

Read your trade papers more intensively.

HOTPOINT WARTIME ADVERTISING
Does Five Jobs!

1. Helps Uncle Sam sell War Bonds. 2. Provides incentive to save for a Hotpoint Electric Kitchen after the war. 3. Keeps the Hotpoint name before the public. 4. Builds interest in the Electric Kitchen for the home of the future. 5. Tells people that low-cost homes can afford Hotpoint Electric Kitchens.

Sells War Bonds Today . . . Electric Kitchens Tomorrow

People earmark the money they save for some future purchase. Hotpoint advertising in national magazines encourages them to buy more War Bonds and keep them to finance a Hotpoint Electric Kitchen after the war.

National Advertising reaches millions of interested families

★ ★ ★

Hotpoint advertisements showing low-cost kitchens in full colors appear in these national magazines

PUBLICATION	ON SALE	ISSUE
Electricity on the Farm	September 1	September
Collier's	September 11	September 19
House Beautiful	September 18	October
Better Homes and Gardens	September 25	October
American Home	September 25	October
Electricity on the Farm	October 1	October
House Beautiful Maintenance and Building Manual	October	Fall & Winter
Life	October 9	October 12
Collier's	October 9	October 17
House Beautiful	October 19	November
American Home	October 23	November
Electricity on the Farm	November 1	November
House Beautiful Guide for the Bride	November	Fall & Winter
Life	November 6	November 9
Saturday Evening Post	November 11	November 14
Bride's Magazine	November 15	November 15
Collier's	November 20	November 28
Better Homes and Gardens	November 25	December
Life	December 4	December 7
Saturday Evening Post	December 9	December 12

A PLAN THAT YOU CAN USE LOCALLY!

Washington Likes This Plan

OFFICIALS of the Treasury Department have stated that they will appreciate the cooperation of retailers in supporting this program locally.

How You Can Help. Hotpoint's Plan Book "Maybe Tomorrow" explains every step and shows mailing pieces, newspaper advertisements and the novel Home Planning File. Ask your Hotpoint Distributor for details. Edison General Electric Appliance Co., Inc., 5632 West Taylor Street, Chicago, Illinois.

Hotpoint ELECTRIC KITCHENS ★ ★ ★

Wholesale Salesmen Consider Trip Pooling As Means of Keeping Trade Routes Open

CHICAGO—Plans for a trip pooling by salesmen as a means of keeping the wholesale trade routes open for the thousands of small merchants who lack convenient access to the bigger merchandising centers are being discussed by the National Shoe Travelers Association as nationwide rationing of gasoline is scheduled for sometime late in November.

The program as outlined here by Norman N. Souther, secretary-treasurer of the association, will be submitted to Rubber Administrator Jeffers and to the Office of Price Administration with the hope that the salesmen will be given at least equal treatment with the students who, on the basis of recent news reports, will be able to get sufficient gas to take them to school if they travel four in a car.

"The plan we will submit after convention action," said Mr. Souther, "involves the traveling of at least three salesmen in one automobile, along with their sample cases.

If the fuel section of the OPA will sanction it, it should be an easy matter for salesmen representing supplementary lines to make their most important trade calls with a minimum of wear and tear on the tires.

"Thus one representative making each of the houses, respectively, children's, women's, and men's shoes, could very easily travel the same route in the same car without conflicting with each other's sales and customers. Or salesmen for shoes, hosiery, clothing, or lingerie could very easily map an identical travel route and use the same automobile."

Unless some such arrangement is made, Mr. Souther said, hundreds of traveling salesmen face unemployment as soon as the nation-wide shutdown on unlimited sales of gasoline takes effect.

The great majority of these men are veterans in their respective trade lines and are unfitted for service with the armed forces. If under the gasoline rationing program, the surviving members of the wholesale forces travel by train, he pointed out, that will add to railroad congestion at a time when ODT has frozen train schedules.

The plan for travel-pooling by salesmen is partly a by-product of an unsuccessful effort to get a better gasoline allowance for traveling shoe salesmen along the Atlantic coast.

A request that some assistance be given these men in making their usual trade calls was met with the reply from Joel Dean, director of the fuel rationing division, OPA, that if preferred mileage were alloted, it would be at the expense of either the Eastern fuel oil supply or of the mileage now allowed physicians and defense workers.

Marshall Field Adds Governors for Cars to Appliance Section

CHICAGO—"Don't let it happen to you!" warns Marshall Field & Co., Chicago department store in an ad urging motorists to keep the 35-mile-per-hour speed limit by installing a governor on their cars as a constant reminder.

"This is war! War against waste. We all mean well . . . but sometimes we forget!" the ad continues. The store notes that while the Victory drive is 35 m.p.h., many persons are arrested for exceeding the limit.

Marshall Field does not operate an auto supply department and has never sold governors, but is offering a line of auto governors in its household utilities section.

Sample governors are shown in the utilities department, and orders are filled by the manufacturer, but Field notes that it can accept no mail orders "because of government priority ruling." Prices range from $11.55 to $43.85.

Women Mechanics Used in Meyberg Service Shops

SAN FRANCISCO — "Pioneering" with the employment of women mechanics is another step forward taken by the Leo J. Meyberg Co., appliance distributor, who has recently converted an old warehouse into specialized appliance conditioning shops for the benefit of dealers unable to open their own.

Two specially-trained women mechanics are being used in one shop and three in another, doing radio repair, refrigerator overhauling, and general electric repairs.

Midwest Supply Jobbers Discuss Their Future at Meeting in Des Moines

WATERLOO, Iowa—"The Future of the Refrigeration Supply Jobber" was the subject of the meeting of the Midwest Refrigeration Supply Jobbers Assn.

The association's meeting was held recently at Des Moines.

Those present at the jobbers meeting included:

J. E. Corbitt of the Penn Electric Switch Co.; Robert M. Anderson of Imperial Brass Co.; J. A. Hanson of Minneapolis - Honeywell; C. S. Ruegg of Ruegg Refrigeration Supply, Omaha, Neb.; C. S. Anderson of Imperial Brass Co.; Fred B. Hovey, secretary of the National Refrigeration Supply Jobbers Assn.; K. B. Thorndike, of Detroit Lubricator Co.

H. S. Hoffman of Hoffman Supply Co., Springfield, Mo.; E. L. Tramposh of Refrigeration Equipment Co., Kansas City, Mo.; L. H. Roberts of Forslund Pump & Machinery Co., Kansas City, Mo.; Mr. Delavan of the Delavan Engineering Co.; Herman Goldberg, factory representative, Chicago.

E. L. Bengston, Republic Electric Co., Davenport, Iowa; W. E. Burch, Winterbottom Supply Co., Waterloo, Iowa; J. P. Kleinheksel of National Refrigeration Parts, Sioux City, Iowa; J. F. Wickham of Wickham Supply Co., Lincoln, Neb.

L. C. Strobeck of the Dayton Rubber Co.; H. N. Haselwood of Howard Supply Co., Wichita, Kan.; F. R. Pond of Refrigeration & Industrial Supply Co., Minneapolis.

A. W. Deits of Interstate Machinery and Supply Co., Omaha, Neb.; O. A. Friemel of Brass and Copper Sales Co., St. Louis; J. F. Boyd of Dennis Refrigeration Supply, Des Moines, Iowa; Tom Plouff of the Ansul Chemical Co.; C. W. Dennis of the Dennis Refrigeration Supply at Sioux City, Iowa.

Electrical Distributor Cited for Misuse Of P-100 Order

NEW ORLEANS, La.—Cited for misuse of the maintenance, repair and operating supplies order (P-100), Lambert Brothers, New Orleans electrical supply distributor, is prohibited from receiving, processing or fabricating any copper products for a period of three months.

Suspension Order S-105, announced today by the Director General for Operations, charges that Lambert Brothers applied the A-10 preference rating provided by Preference Rating Order P-100 to a purchase order for 5,000 feet of copper wire, although this application was not supported by customers' orders rated under P-100.

An additional misuse of the rating by the Lambert firm was on a purchase order for 12,000 feet of copper wire, despite the fact that at the time this order was placed the company was entitled to extend the A-10 rating to less than 500 ft. of wire.

Canadian Super Cold Argues Right to Change Business

MONTREAL, Que. — Challenged by the Canadian Super Cold Co., dealers in refrigerators, Pierre Dasmarais, landlord argued the question of whether "a tenant may validly plead the state of war and obedience to an order of the government authorities to justify a change in the nature of his business contrary to certain provisions in his lease" before the Court of Appeal here.

The Super Cold Co., appellant, objected to an interlocutory judgment of the Superior Court, which, on an inscription in law, rejected the foregoing plea in defense of an action by the landlord to put an end to the lease and have the Super Cold Co. ejected from a store at 4235 St. Denis St.

Desmarais alleged that the tenant broke the conditions of the lease by converting part of the leased premises into a repair shop in which machinery, driven by motor power, was used, thereby creating a fire risk which increased the landlord's insurance premiums.

Mr. Justice Forest, in the lower court, ordered the pleadings complained of, struck from the appellant's defense, holding out, in an action for resiliation of a lease, the tenant in this instance could not be permitted to plead to special situation created by the state of the war.

B. Bernstein, King's Council, submitted that the company appellant had a right to make the plea in question, as, due to the state of the war the additions to equipment had to be made in order that the company remain in business.

Maurice Cusson, for the respondent, argued that conversion of the leased premises into a repair shop constituted a change in the destination of the lease, and that there was no error in the judgment maintaining respondent's partial inscription-in-law, as the pleadings complained of were not pertinent to the issue involved.

The court reserved judgment.

Plant of Consolidated Aircraft Corp., "Somewhere in Texas," designed and built by The Austin Company

IN A SERIES of "Freon" messages to architects now appearing in the "Architectural Record." This and other advertisements in the series are bringing to the attention of those who plan wartime construction the benefits of scientifically controlled conditions—with particular emphasis upon the part played by air conditioning and refrigeration. Reprints of the advertisement on the left and of others in the series are available on request to: Kinetic Chemicals, Inc., Room 7520 Nemours Bldg., Wilmington, Del.

"Controlled Conditions Plants are helping win the war—"

says Albert S. Low, Vice President and Chief Engineer, The Austin Company, Engineers and Builders

"EFFICIENT, around-the-clock war production has become a practical reality under the constant illumination, uniform temperature and humidity that are provided at all times of the year in 'controlled conditions' plants. Manufacturers of heavy bombers, fighting planes, aircraft engines, precision instruments, radio controls and other vital war products are now achieving a real victory pace in twelve such windowless plants designed and built by us since 1930.

"In two almost identical plants like that shown above, Consolidated B-24 bombers are being produced on conveyorized assembly lines under complete atmospheric control and never-changing light. There the War Department required a good working environment for maximum war production, and proper conditions to protect costly materials and sensitive instruments in storage and assembly. These 'controlled conditions' plants were authorized as the most effective means of meeting such requirements.

"Automatic blackout protection inherent in every windowless plant is a plus value which gives special advantages in wartime, eliminating the possibility of costly interruptions and need for makeshift precautions. Special wall and roof designs add the highest obtainable insulation, plus acoustical control and maximum fire- and shatter-resistance.

"The world's first windowless factory was designed by our engineers twelve years ago to meet problems of peacetime production. Today, that plant and eleven others where we have applied the same 'controlled conditions' principles are making record contributions to America's war program through faster, higher-quality production. And when victory is finally achieved, their basic flexibility will make them permanent assets in our peacetime economy."

FACTS ABOUT "FREON" In this plant "Freon" refrigerants are used in both the general air conditioning system, of 12,000 tons ultimate capacity, and in more than 150 individual refrigeration units of ¼ to 20 tons each.

"Freon" has been used almost exclusively for new air conditioning systems. Specifying "Freon" avoids any possibility of penalty in insurance rates, and promotes safety of life and property. Kinetic Chemicals, Inc., Wilmington, Del.

KINETIC

FREON

REG. U. S. PAT. OFF.

safe refrigerants

"Freon" is Kinetic's registered trade mark for its fluorine refrigerants

URGENT—*New cylinders for refrigerants are impossible to get because all available steel is needed for war. We can continue to meet civilian requirements for "Freon" only if you get cylinders back promptly. To avoid a cylinder shortage and insure "Freon" deliveries, return cylinders the day they are emptied.*

Survey Turns Up Real Reasons for Breakdown In Service In Detroit Area

Drafting of Key Service Men & Delay In Getting Parts Cause Serious Refrigeration Problem

Contractors' Survey Spotlights Causes of Poor Service

DETROIT—In its previous issue (Oct. 19 Bulletin issue) AIR CONDITIONING & REFRIGERATION NEWS published the following:

"In a smashingly convincing survey that has bared the facts as they stand today, the Refrigeration and Air Conditioning Contractors Assn. of Detroit has shown how thousands of dollars worth of foodstuffs is spoiling and how essential installations of refrigeration equipment have broken down and been forced to become inoperative because of the draining off of refrigeration servicemen by the draft and the difficulty of obtaining parts.

"The survey, compiled by Raymond Shock, executive secretary of the association, was given prominent play and banner headlines in the Sunday, Oct. 11 editions of Detroit newspapers. The newspaper stories pounded home the fact that with many of the essential installations of commercial refrigeration systems going without care under the present circumstances, the average homeowner with an electric refrigerator could hardly expect to receive any service at all for his box.

"What gave the survey and the subsequent newspaper stories about it such a big punch was the fact that the Refrigeration and Air Conditioning Assn.'s secretary, Mr. Shock is an attorney and one of the appeal agents of the Detroit Selective Service Board 18, and thus was enabled to get the picture of the "manpower" situation in the refrigeration field in relation to the war effort from both sides of the picture.

"Said Mr. Shock, in making his report:

" 'During the latter part of September, I requested the Selective Service Headquarters to defer certain men, who have been placed in 1-A by the draft boards from Selective Service, for the following reasons:

" '1. They were the owners and operators of refrigeration and air conditioning stores, having licenses to carry on such business.

" '2. That by not deferring them, large amounts of foodstuffs would be spoiled from lack of refrigeration.

" '3. That already a large number of refrigeration contractors had been inducted into the service and were forced to close their business.

" '4. That there was no person with the necessary skilled training to take on their business and to provide the public with such services necessary in preserving food and meats.

" 'At the time of my conference, I did not have any specific proofs as to the seriousness of the situation and it was suggested that I make a survey of the refrigeration and air conditioning contractors' business to determine the present status of such industry.

" 'On Sept. 25, I prepared a general questionnaire asking all of the questions hereinafter stated and mailed such questionnaire to all refrigeration and air conditioning contractors in the City of Detroit, who have a license to carry on such business'."

The NEWS is now privileged to present complete figures on this survey which tells so graphically the story of how the draining of refrigeration service manpower is seriously endangering America's food preservation facilities.

Questions asked in this survey are listed in a box on this page.

The answers given by the men are as follows:

74.1% of Service Work Essential

Answers to the first question, "What proportion of your business is in the following classifications?," brought out the following percentages:

ESSENTIAL		
Hospitals	2.0%	
Schools	3.8%	
Meat Markets	25.0%	
Food Sup. Mkts.	17.0%	
War Plants	7.2%	
Hotels	4.3%	
Ships	2.6%	
Others	12.2%	74.1%
NON-ESSENTIAL		
Beer Halls	5.5%	
Bowling Alleys	1.1%	
Pool Rooms	.3%	
Rec. Centers	1.0%	7.9%
ESSENTIAL or NON-ESSENTIAL		
Homes, Apts.	18.0%	
		100.0%

Specialized Training

To the question of what character of specialized training do the service men possess, the following responses were given: "Highly skilled," "A-1 trained men," "refrigeration and air conditioning engineers," "electrical, chemical, mechanical," "physics, math, electricity," "automatic heating and cooling equipment," "motor specialists and electricity, refrigeration, etc," "electrical refrigeration, gas, temperature control, humidity control, and food preservation," and "service engineer."

Length of Training

The following figures developed from the answers given to the question, "What length of time is needed to train new men?"

4	companies require	6-12 mos.
5	" "	1 year
1	" "	1½ years
7	" "	2 years
1	" "	2-3 years
1	" "	2-4 years
11	" "	3 years
1	" "	3-4 years
1	" "	3-5 years
1	" "	4 years
1	" "	5 years.

In answering this question, one company remarked that "it takes at least one year of practical and theory experience for an employe to become of any benefit as a refrigeration man." Another said: "We are now training four new men, which is the limit of untrained employes we can carry."

Shortage of Help

Thirty-three companies replied in the affirmative to the question, "Have you encountered a shortage of men in your business?" One company reported "No" and six made no answer.

Thirty-four companies reported that a total of 99 employes had been inducted into the service.

Thirty-eight companies reported that they needed a total of from 238 to 244 employes to carry on their businesses.

Thirty-one companies reported they have made an effort to replace their employes, four companies reported that they had not, and five did not answer this question.

Unanswered Calls

Thirty-six companies gave data on the number of service calls received each day that they are unable to handle. The figures follow:

1	company	reported	40	calls
2	"	"	25	"
1	"	"	20	"
2	"	"	15	"
1	"	"	13	"
3	"	"	12	"
6	"	"	10	"
2	"	"	6	"
3	"	"	5	"
4	"	"	4	"
5	"	"	3	"
2	"	"	2	"
4	"	"	0	"
36	companies		311	calls

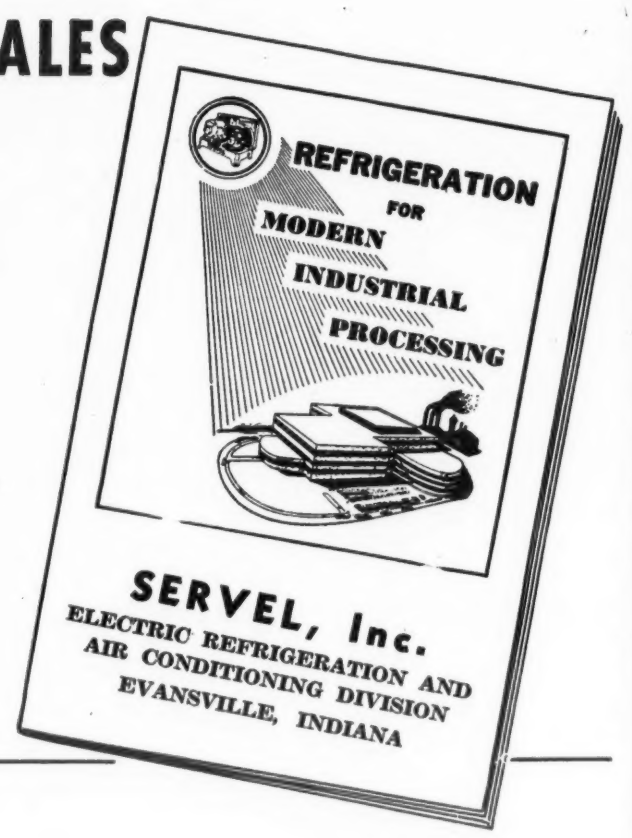
Food Spoilage

Answers to the next question, "From your personal knowledge, do you know of meat and food stuffs having been spoiled for lack of proper refrigeration?" were rather indefinite, inasmuch as the companies had very little actual data on the value of food losses. However, 29 companies reported that they did know of such losses, eight reported that they did not know of such losses, and three companies did not report.

(Concluded on Page 7, Column 3)

PUT YOUR BUSINESS IN "AA" BRACKET WITH INDUSTRIAL SALES

This new FREE Booklet will guide your Salesmen in putting over the Industrial Refrigeration Idea with Industrial Prospects



JUST OFF THE PRESS

This booklet will help your salesman answer that "$64.00 Question" which the industrial engineer will be sure to ask. Not only may it save your salesman from embarrassment, but it may save the loss of a sale as well.

The possibilities of refrigeration in industry have just been scratched. Almost daily, new discoveries show how efficiencies can be gained in war plants by properly designed refrigeration.

A Request on Your Company Letterhead will bring this Newly Printed Booklet to you at once. - - No obligation of course.

SERVEL, INC. ELECTRIC REFRIGERATION AND AIR CONDITIONING DIVISION

EVANSVILLE INDIANA

These Were the Questions Asked Of Detroit Contractors

QUESTIONNAIRE

1. What proportion of your business is in the following classification:

   ESSENTIAL, such as:

   Hospitals ..... War Plants .....
   Schools ..... Hotels .....
   Meat Markets ..... Ships .....
   Food Supply Markets..... Others .....

   NON-ESSENTIAL, such as:

   Beer Halls ..... Pool Rooms .....
   Bowling Alleys ..... Recreation Centers .....

2. A. What character of specialized training do your men possess?
   B. What length of time is needed to train new men?
3. A. Have you encountered a shortage of men in your business?
   B. How many employes have been already inducted into the Service?
   C. How many employes do you need to carry on your business?
   D. Have you made an effort to replace your employes?
4. How many service calls do you receive on the average each day, that you are unable to take care of?
5. From your personal knowledge, do you know of meat and foodstuffs having been spoiled for lack of proper refrigeration? If so, give approximate amount.
6. Have you been able to secure necessary workmen at 60 hours a week or less to furnish essential service?
7. Do you know of any men who are available with knowledge of refrigeration repair?
8. If you were inducted into the military service, have you any one to take your place or carry on your business?
9. Have you had trouble with the Department of Safety Engineering on contracts which you have been unable to fulfill on account of shortage of materials?
10. Have you had citations in Court for violations of refrigeration or electrical ordinances? If so, explain your reasons for not being able to comply with the Ordinance?

THE ABOVE QUESTIONS HAVE BEEN ANSWERED TO THE BEST OF OUR KNOWLEDGE.

.....
Company

By:.....

How Detroit 'Free Press' Featured Survey

Markets

The Detroit Fr

SUNDAY, OCTOBER 1

Breakdown in Refrigeration Service Allows $10,000 Food to Spoil Here

Home Unit Care Is Out for Duration

326 Calls a Day Go Unanswered as Calls to the Army Close Repair Sho

BY ROBERT L.

Some $10,000 and other f spoiled

WAVE M

The clipping above shows the editorial treatment given the results of the survey in the Detroit Free Press. The complete Free Press story, written by Robert L. Perry, business editor, appears below.

* * *

"Some $10,000 worth of meat and other foodstuffs has been spoiled in Detroit because of the breakdown in the vital service industry represented by the Refrigeration and Air Conditioning Contractors Assn.

"And that is only one gloomy phase of the report that Selective Service Headquarters received Saturday from Raymond M. Shock, executive secretary of the association, and also one of the appeal agents of Draft Board 18, who thus has seen the picture from the industry's side and the Draft Board side.

"His report implies that the average home owner might as well give up the idea of getting refrigeration service for the duration, and if necessary return to the old-fashioned icebox.

"It is based on a survey made after he had approached Selective Service Headquarters late in September to request deferment of certain refrigeration service men who had been classed 1A.

"At the time he had no specific proof of the seriousness of the situation, and Selective Service chiefs suggested the survey, a questionnaire which went to all refrigeration and air conditioning contractors licensed in Detroit.

"One startling discovery is that service on domestic refrigerators (and Shock estimates that 75% of Detroit homes have electric refrigeration) is already pretty well out of the picture, both because repair parts are not available, and because the refrigerator service men are occupied almost exclusively with repair of units rated 'essential to the War Effort.'

"The survey showed that 90% of all refrigeration service now being rendered is for these 'essential' items, which include hospitals, schools, meat markets, food supply markets, war plants, ships, etc. Included in the non-essentials, along with home refrigerators, are recreation centers and beer halls, which, all taken together, get only 10% of the service.

"The survey also investigated how long it would take to train substitute repair men, and the concensus was that it would take three years. This problem is aggravated because a large proportion of the men in this rather new business were young, and have been called into military service, with the result that many shops have closed. The press of work in the remaining shops, Shock said, is so great that repair men often disconnect their phones at night in order to rest, they are so swamped with calls.

"The survey shows 82½% of the contractors have a serious shortage of men; 70% of the contractors had lost a total of 99 men who had been called into service, and 80% gave the number of additional trained men essential to properly carry on their business, which added up to 240 men needed.

"Eighty per cent reported a total of 326 calls a day that they were unable to service, due to lack of employes, lack of parts held up by priorities, and miscellaneous reasons.

"In answer to a question whether they had personal knowledge of foodstuffs spoiling because of lack of refrigeration service, many answered that they knew of cases, but could not estimate the amount, and of those that gave specific losses, the total estimate ran to around $9,500, although at least one of the estimates specifically stated that it covered 'the last three or four months.'

"Ninety-five per cent of the contractors said they had no knowledge where trained replacements could be hired, and the same proportion said that if they were inducted into military service there was no one available to carry on their businesses, and it would be necessary for them to close.

"Shock said that about half of the refrigeration contractors licensed in Detroit returned questionnaires, which, allowing for those who normally would neglect to fill them out, would indicate that many are already out of business."

Contractors' Survey Finds Reasons for Service Breakdown

(Concluded from Page 6, Column 5)

Quoted statements illustrating what the companies have found in the way of food losses follow: "This summer quite an amount due to lack of men—around $1,000 worth." "In households, yes. Customers claim from $5 to $10 on each call." "$5 per call." "We have received many complaints of food loss caused by lack of proper refrigeration and slow service, but we are unable to estimate loss as we have not investigated for paid claims." "Ten or 15 cases amounting to about $10 each." "Not yet." "Lack of materials caused approximately 300 pounds." "100%." "In last four months, $1,000." "This occurs occasionally due to lack of help to take calls on time—$400." "Only on household—½%."

Ten additional companies, giving specific amounts, reported a total loss of over $6,000 worth of food.

"No" was the answer given by 33 companies to the question, "Have you been able to secure necessary workmen at 50 hours a week or less to furnish essential service?" Two companies replied yes, and five did not answer. Several comments were made to this question:

"No. All men have been working overtime daily due to shortage of service men." "We have been working all men as long as they will work without fulfilling demands." "I doubt if there are any available." "No—not trained or experienced service men."

To the question, "If you were inducted in the military service, have you any one to take your place or carry on your business?" 38 companies replied "No," while two answered in the affirmative. One company remarked that he had "tried to sell my customers to other contractors, no sale, got more than they can handle."

Five companies reported that they have had trouble with the Department of Safety Engineering on contracts which they have been unable to fulfill on account of shortage of materials. Of the 34 concerns which reported no such trouble, many added the remark, "not as yet," or "not yet but soon."

This question is aimed at determining whether or not the safety code is preventing installation of equipment because of the lack of some extra and sometimes unnecessary devices which are not procurable because of priority regulations, without which it might be possible to make safe and satisfactory installations.

Other comments on this question were: "No trouble, but several letters." "Have not as yet but we have been unable to take contracts because I was unable to obtain proper material to comply with city code." "Yes, but exceptions have been granted."

The final question was "Have you had citations in court for violations of refrigeration or electrical ordinances?" Thirty-five companies reported "No," while two reported that they had had citations, because of "shortage of copper tube," and they were "unable to get proper materials." One company remarked, "No, their hands are tied, they can't do anything about it!"

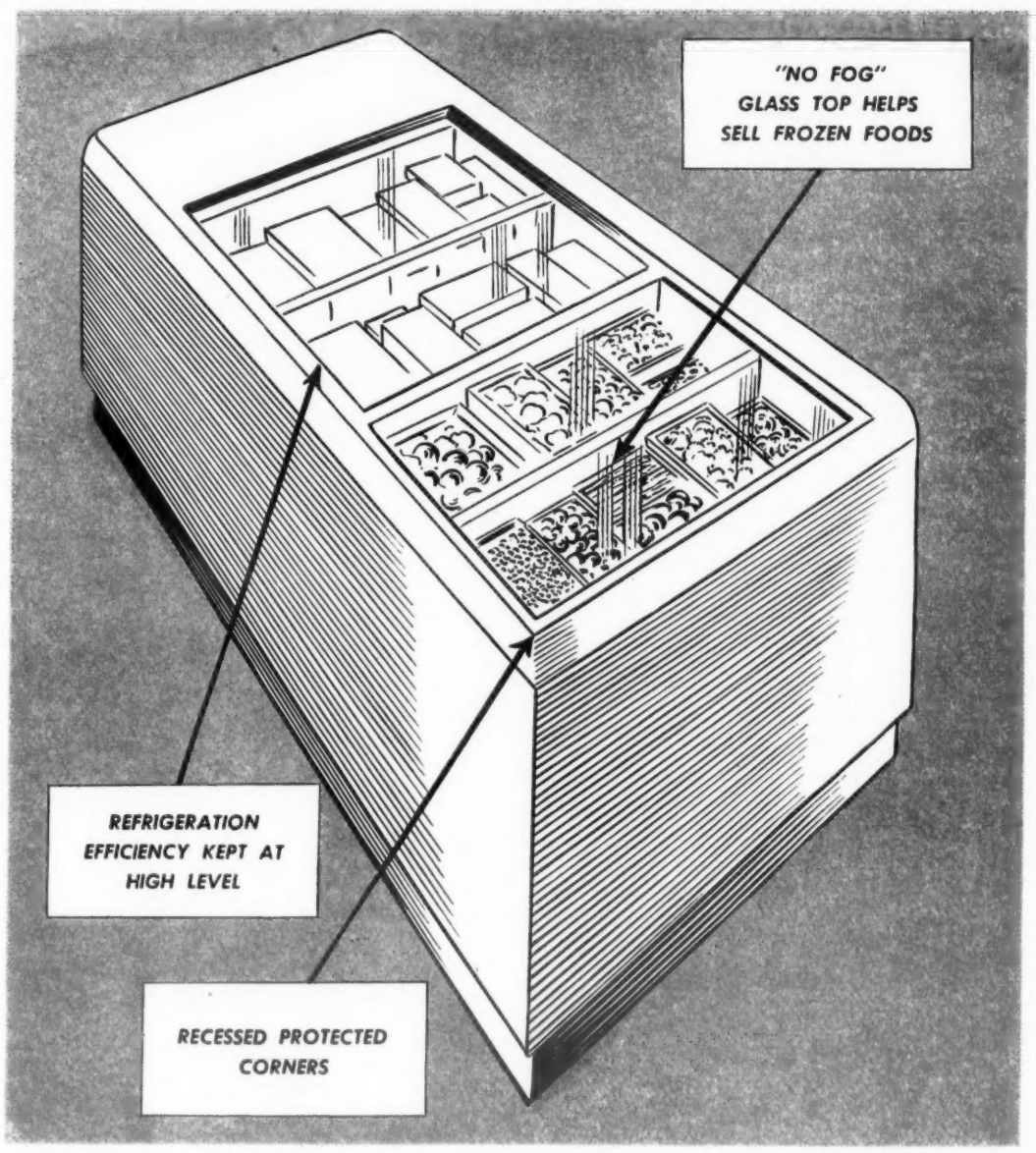
BRING YOUR CASES UP TO PAR FOR THE DURATION WITH *Thermopane*

Replace Old-Fashioned "Blind Tops" with Full-Vision Glass for More Sales

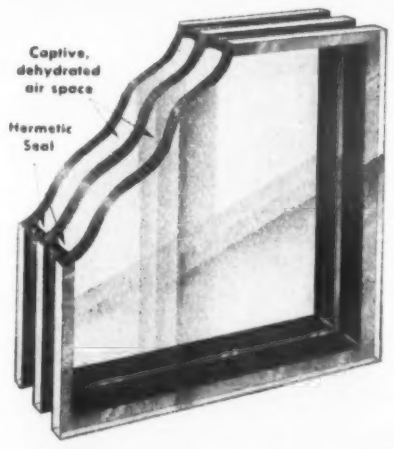
With greater employment and higher wages enabling more people to buy better foods, Frozen Food Distributors can take advantage of increased consumer demand by replacing "Blind Top" cases with full-vision Thermopane glass tops. Thermopane units are still available for many old-fashioned standard cases . . . and their installation is simple, and in most cases, can be completed right in the store.

Consider these advantages of Thermopane. *First*—the customer can see what she wants, without fumbling around opaque doors. *Second*—Thermopane tops do not fog up, because dry captive air is sealed in between panes of glass. *Third*—no dust or dirt can seep in, reducing such service problems to a minimum. *Fourth*—replacement units are quickly and economically installed.

Merchandise-minded distributors are now changing over to Thermopane-equipped cases to take advantage of increased sales. Why not obtain the advantages of Thermopane for your cases today? Libbey · Owens : Ford · Glass Company, 1390-A Nicholas Building, Toledo, Ohio.



An Air-Conditioned Sandwich. Thermopane is a glass unit consisting of two, three or more panes of glass, separated by a ¼-inch or ½-inch of captive, dehydrated air, and sealed around the edges by an airtight metal seal.



L O F

LIBBEY · OWENS · FORD

Thermopane

"Better Seeing Means Better Selling"

GET COMPLETE INFORMATION ON REPLACEMENT WITH THERMOPANE

Stock sizes are available or can be made to fit most frozen food and refrigerated display cases. Write us for replacement information on your particular case.

Rebuilding Service

Household Refrigerators Are Overhauled for $35 Each

Commercial Dealer Enters Rebuilding Field After Freeze Order Halts New Jobs

BIRMINGHAM, Ala.—A specialty of overhauling household electric refrigerators for a flat sum of $35 each is making the cash register ring for Hill Sales, Inc., of Birmingham.

In featuring a complete reconditioning job, this concern borrowed an idea which has proved profitable to repair shops in the automobile field.

Until this year this concern was engaged exclusively in commercial refrigeration sales and doing a good job of it. But government regulations put a crimp in the size of job the company was geared up to do.

Earl Wolfe, head of the company and a resourceful young man, had already started building display fixtures as he found that helped him to get complete outfitting jobs on new places including the refrigeration. In fact he had two big jobs sold but not delivered when the freeze came and much of his effort has been to get priorities through on these two deals.

Up until this year the only service rendered by Wolfe was on commercial cases sold by his own company. He wouldn't take the service on other makes of refrigeration, although beseeched to do so.

But with the sales situation as it was, Wolfe naturally turned toward service. As luck would have it a large wholesale refrigeration distributor in the city lost his service man and asked Wolfe if he would not take care of the service until another service man could be found. Wolfe did so and this included the service of some household units as well as commercial units. Finally Wolfe took the contract to handle this distributor's service and this lead to other calls from dealers as well as individual owners.

With this approach Wolfe finally decided to go into household refrigerator service in volume, enlarged his shop and employed more service men. He now has seven service men, five on household and two on commercial boxes. His shop is now turning out about six reconditioned refrigerators per day. One man on an average can handle one to two boxes per day.

"In featuring our overhaul jobs we purposely put the price fairly high, because we were more or less feeling our way and were not sure we wanted to take on the business," said Mr. Wolfe. "We suggest this service to all customers with boxes over about four years old and many of them take us up on our proposition.

"In fact about 50% of our sales are made over the telephone. Some of this is no doubt due to the scarcity of refrigerator service men. Some customers tell us that they have made five or six calls without being able to get any service, so when we make a proposition to 'fix them up for the duration' with a complete reconditioning job they are ready to say 'come and get it.'

"Most commercial refrigeration mechanics do not like to work on domestic boxes. We feel we have eliminated much of that objection.

"For one thing we built knee-high platforms in our shops, so that service men can work on the units without stooping over. Then we handle the contacts with the individual owners and the complete reconditioning job eliminates much of the comeback in this business. In fact we do not have a comeback in one out of 40 boxes reconditioned.

"Incidentally we believe in our jobs enough to give a 90-day guarantee of perfect performance, and furthermore we will take a $1-a-month service contract."

The $35 job does not include refinishing the exterior of the refrigerator, although it does include retouching of bad places. For an additional charge of $10 the concern will completely refinish the exterior including the stripping off of existing coats and repainting. The reconditioning job contemplates an expenditure of $10 for parts, the rest going for labor.

Of the parts expenditure, about $4 is figured for motor reconditioning. If more is required then the owner is asked to pay the difference.

Thus if it costs $17 to recondition a motor, the owner would be asked to bear $13 of this cost, over and above the $35 reconditioning job.

"As labor is the chief cost in reconditioning a refrigerator," added Mr. Wolfe, "we follow the policy of replacing certain parts regardless. These include such items as seals, suctions, discharge reeds, gas and oil and belt. If the rings are bad we replace, in fact we do whatever is necessary to make the refrigerator like new, then make a test run. It certainly would be shortsighted for us to give less than our best to this since we have chosen it for our bread and meat for the duration."

Mr. Wolfe said service departments probably waste more time looking for needed parts than on any other phase of the business. For that reason his department has carefully compiled the needed parts on various makes and models of refrigerators, keeps as complete stock of parts as it can and knows where others may be obtained. Sometimes parts are ordered from as far away as Los Angeles. In other words if one part distributor doesn't have what he wants he gets it elsewhere.

This company doesn't hesitate to take a sealed unit, or even an "orphan" make of refrigerator. It may completely convert the refrigeration system to one that is more simple, in fact Wolfe said he found the simplest system as a rule the best. Quite often a part from one make of refrigerator is found to fit another make for which a new part is not available.

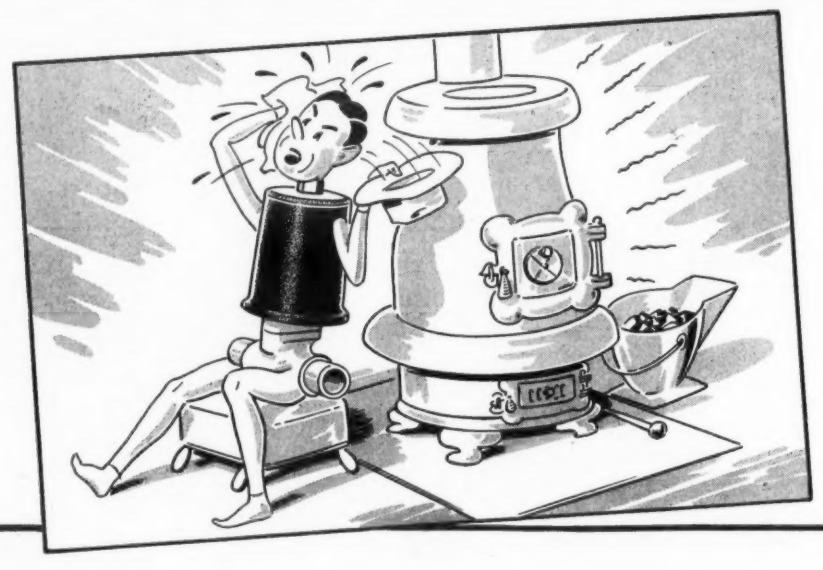
"With no new units being sold, we figure that a reconditioning service on old refrigerators in use will be more needed in the future," concluded Mr. Wolfe. "Except for some advertising in the classified columns of the newspapers, most of our business so far has come to us. However, we expect to do more advertising in the future and to actively solicit homes for this kind of business."

Hill's Rebuilding Shop

View in service department of Hill Sales, Inc., showing men at work on household refrigerators. Note platforms on which boxes are placed for convenience of mechanic.

Another view showing portion of motor repair shop.

Some of trucks lined up at side entrance. Earl Wolfe, proprietor, standing in foreground gives instructions to driver.

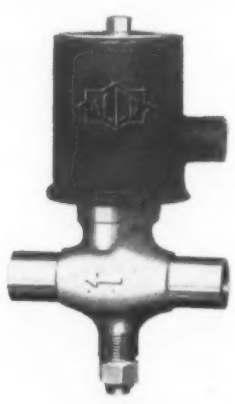


For Longer Life of Your Magnetic Valves

Keep Them Away From Heat!

Proper care in installation and maintenance of magnetic valves in any refrigeration system will do much to keep efficiency up and prolong the life of any installation. Maintenance and conservation of equipment are vitally important now, when wartime restrictions limit the production of new parts and replacements for civilian needs.

Alco Valve Company therefore suggests that you follow these service hints — one in a series of advertisements on equipment conservation and maintenance:



MAGNETIC VALVES

1. Extreme heat is injurious to magnetic valves — therefore do not install them in small, confined, or unventilated locations.
2. Check the operating voltage to be sure it does not exceed the rated voltage.
3. Be sure a surge protector is connected across the line, otherwise line surges may short circuit.
4. It is advisable to install filters ahead of the valve.
5. Magnetic Valves must be installed in a vertical position.

Now is the time to check your refrigeration systems on these points to assure the longest possible life for all equipment. With the approach of the heating season this is particularly important right now. Remember, too, that Alco engineers are always glad to help you in solving any maintenance or installation problem.

ALCO VALVE COMPANY
2620 Big Bend Blvd. St. Louis, Missouri

Engineered Refrigerant Controls
THE STANDARD OF THE INDUSTRY

Air Conditioned Mines

Air Conditioning in Coal Mines Reduces Caveins, Aids Miners

PITTSBURGH — Conditioning air for the "men who dig for black gold" hundreds of feet beneath the surface of the ground was inaugurated recently at the Beech Bottom coal mine on the Ohio River above Wheeling, W. Va.

The 500 men there who turn out a million tons of coal a year to provide power for war production plants in West Virginia and Ohio already profess to "feel better."

Installed primarily as a safety measure to reduce roof-falls by maintaining a constant temperature and humidity, the air conditioning also has provided a sorely-needed improvement in the working conditions of miners.

Air conditioning in mines is not new, according to the United States Bureau of Mines, which is keeping close check on the efficiency of the project, and encouraging experiments have been made in Illinois and Indiana mines in recent years.

However, a novel twist, which means the solution of the water supply problem encountered by many mines, has appeared in connection with the new air cooling program.

Engineers say that rock falls, which trouble the miners, are caused by expansion and contraction of the rock due to fluctuation in temperatures and humidity, and variations between the inside and outside temperatures, creating beads of condensed moisture on the rock in the summer and leaving the rock dry in the winter. Rock falls—from a pound to a ton—invariably accompany summer drippings.

Other mines have used chilled water to bring the intake air down to the desired temperature and give it the proper moisture content.

Before releasing the exhaust air from the mine, however, the Windsor plant, which has a limited supply of spring water, passes the cold air through the water that has been warmed in the original process, thereby cooling it for another air-chilling job.

Officials have pointed out that control of roof falls results in several beneficial factors: the elimination of the mental hazard which slows up the miner, the maintenance of production at an even pace without interruption caused by injuries to miners, and through improved atmospheric conditions the company is enabled to make a larger recovery of coal from its property, thus conserving an important natural resource.

New Wisconsin Iron Mine Has Complete Air Conditioning

IRON RIVER, Wis.—A new iron mine which incorporates air conditioning and showers for the miners, was recently opened by the Inland Steel Co. here.

The new mine is in the center of the iron producing region of the Iron River district of the Menominee range.

The buildings, equipment, and general facilities of the new mine are modern in every respect. Modern architectural advantages and the science of air conditioning were prime factors in the Inland Co.'s effort to make the mine ultra-modern.

Its three main buildings—the offices, hoisthouse, and combination house and dry building — are connected with the main shaft by means of a tunnel, eliminating necessity of exposing miners to the elements, and speeding up operations.

CHANGE ROOMS

Change rooms are underground. Lockers have been eliminated by a system whereby work and street clothes are hoisted to the change room ceiling, eliminating accumulation of garments and providing additional floor space for assembly purposes.

The shower is equipped with clean towels and an adjoining drying room. Heating and ventilating systems are controlled by thermostat, with exhaust fans sucking out moisture, dust, smoke, heat, and fumes.

It is said that engineers planned the change rooms so common colds are kept at a minimum by careful regulation of air temperatures in both the work or dirty clothes room and clean clothes room. Depending upon the relative humidity outdoors, the work clothes room is kept at a temperature of about 85 to 100 degrees while the clean clothes room is a constant 70-75 degrees, giving the miner a chance to cool off gradually.

Conditioned Smokehouse Boosts Output 50%

BIRMINGHAM, Ala. — Production was increased almost 50% as a result of the recent installation of a Carrier air conditioned smokehouse for the Star Provision Co., report Joseph and Isaac Gotlieb, executives of the company. Installation was made by Shook & Fletcher Supply Co.

The new smokehouse has helped the Star Provision Co., which serves a large defense area, meet the demand for its meats which has increased almost 100% in the last 12 months. The new addition is intended to supplant the old type of manually operated gravity smokehouse, which however, is still being operated by the company during the emergency.

A water spray for cold showering of sausage or other products prior to removal from the smokehouse is another part of its equipment.

Steam heat for the smokehouse is provided by means of a coal stoker fired steam heating plant and smoke from a Carrier smokepot which burns hickory sawdust. The air conditioning unit proper located in a separate compartment just back of the smoke house room includes fan, heating coil, humidifier, motor, motor drive, belt guard, volume damper, and balanced outside air dampers.

The supply duct along the ceiling of the house is equipped with ejector nozzles which provide rapid circulation of the air within the house with uniform temperature and air velocity.

National Forge Puts Air Conditioning In All Offices

PHILADELPHIA — Planning and supervision of high precision war work at the Irvine plant of the National Forge and Ordnance Co. in Warren County, Pa., is being expedited by the installation of 24 Carrier "Weathermakers" which were installed to overcome heat and humidity conditions in the offices.

"For many years it has been traditional with National Forge to supply our workers with the benefits of all possible improvements which add to their efficiency while at work," states company president, John C. Harrington. "With everyone working at top speed these war times it is particularly important that we keep in as good mental and physical condition as possible."

Seventeen Carrier units installed last summer in the National Forge offices proved so successful in increasing efficiency that additional installations were made recently. Every office room at National Forge is equipped with Weathermakers, and the sales, engineering, stenographic, and accounting rooms have multiple installations.

Refrigerated Hothouse For Orchid Culture

VERO BEACH, Fla. — The "refrigerated hothouse" is the latest wrinkle in the art of growing orchids. In 1941, A. G. McKee, famous horticulturist and botanical expert at McKee's Jungle Gardens here, imported a rare variety of orchids from Italy in an attempt to cultivate them in Florida sunshine.

Sunshine, it was discovered, was not what the fragile blooms required. Instead, it was refrigeration, reproducing the cool dry atmosphere of the high Alps. Mr. McKee worked with a Carrier Corp. engineer to design a "refrigerated hothouse" in which the original growing conditions could be simulated.

Carrier Sees Use of Air Conditioning in War Plants as Boon to Industry

NEW YORK CITY.—Action of the War Production Board in asking department stores, theaters, hotels, and office buildings with air conditioning equipment above 100 horsepower to "volunteer" such equipment for "active duty" in war production factories should serve to eliminate from the public mind the misconception of air condition merely as a "comfort" industry, Dr. Willis H. Carrier, Chairman of the Board of Carrier Corp. asserted last week.

"It is seldom recognized that air conditioning had its inception in industry as a production tool. Nor is it common knowledge that the greatly expanded production facilities of those in the field of air conditioning and refrigeration are today devoted 100% to production for war industries," Dr. Carrier said.

"Not only is low temperature refrigeration equipment essential to the production of certain types of synthetic rubber, as pointed out by Donald Nelson in his request that stores and others 'volunteer' their equipment, but air conditioning equipment serves a myriad of other war production requirements.

"Air conditioning, for example, makes possible a high degree of accuracy where work to close tolerances is called for. Thus, it helps insure the amazing accuracy of bombsights and firing devices. In additon, air conditioning serves in the production of powder, in the loading of shells, in the production and processing of photographic film, in the manufacture of lenses and fine optical instruments and in countless other ways," Dr. Carrier said.

Air Conditioning Plays Important Part In Processing Records Kept on Microfilm

PROVIDENCE, R. I. — Air conditioning is serving a useful role in helping to preserve and protect priceless documents against the hazard of bombing raids, experience with microfilm photography in the photographic laboratory at Brown university showing that air conditioning is essential to this process, now in increasing use as a means to guarantee against the loss of valuable records and documents.

"Microfilm requires precise control in processing if the results are to be reliable and permanent," according to Edward C. Roosen-Runge, in charge of the Brown laboratory. "In our laboratory the dark room, enlarging room, and camera room are all air conditioned and kept summers and winters at 68° F. and 50% humidity.

"The air conditioning serves three purposes: First, the air is kept dust free, which is of the greatest importance because of the smallness of the printed matter on the film. One dust particle on the film or one scratch caused by dust may obscure a whole word completely.

"Second, the temperature control is a very essential help in obtaining even results in processing, quite apart from the convenience and comfort of the operators.

"Third, the humidity control serves to keep a perfect storage condition for the film. In addition, it again helps toward a precise control of the processing and drying."

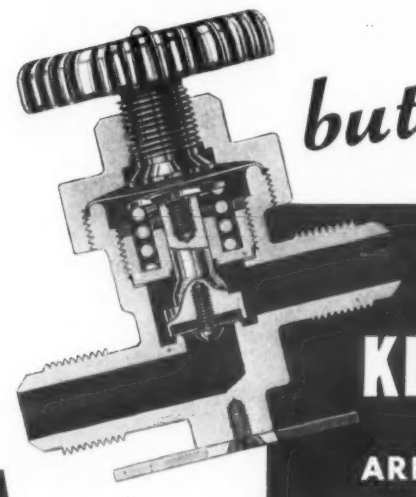
The Brown university photographic laboratory, employing Carrier refrigeration and air conditioning equipment, is working on several microfilm projects.

One of these involves microfilming for the expansion of the Brown Mathematics Library, already well known throughout the country. About 1,000,000 pages have so far been photographed in this project.

Another is concerned with the microfilm service for the "Mathematical Reviews," an abstract journal.

Their END USE is quite different

but their JOB is still the same!



TODAY

KEROTEST VALVES and FITTINGS

ARE DEPENDABLY CONTROLLING AIR CONDITIONING AND REFRIGERATION EQUIPMENT IN

WAR PLANTS
SHIPYARDS
NAVAL BASES
HOSPITALS
ARMY CANTONMENTS

AND NUMEROUS OTHER WAR-TIME ACTIVITIES WHERE FRONT LINE OR INDUSTRIAL SOLDIERS MUST BE PROTECTED

We proudly fly the Victory Fleet Flag and distinguished Maritime "M" Burgee awarded for outstanding maritime production efficiency by the United States Maritime Commission!

KEROTEST MANUFACTURING COMPANY
PITTSBURGH, PENNSYLVANIA

Air Conditioning & REFRIGERATION NEWS

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Established 1926 and registered as
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F. M. COCKRELL, *Founder*

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Refrigeration Will Help
Win the War

Getting on Top Of the Job

THINGS are looking better in Washington. Some very good men have arrived on the scene to straighten out the tangles at the top. Most of the lower-bracket executives are now running in high gear, having learned more about their amazingly complicated jobs, and having received clearer "directives" as to the "area" of their authority.

And incompetents are being weeded out. True, the curse of bureaucracy—deadheads who draw their salary and keep out of sight—we have with us always. But the troublemakers—those whose self-appraisal was so inflated that they undertook oversize tasks with sorry results, and those former underlings who were having the time of their lives kicking hell out of their former bosses in private industries—are gradually receiving one-way tickets home.

WPB BEING ROUNDED INTO VERY EFFECTIVE TEAM

WPB, in football terms, is becoming a team—and an all-star team at that. Like every coach, Donald Nelson started the season with a big squad. It has taken him a long time to choose his players. For some of the positions he didn't have the right material, so recently he has "bought" some proven stars to fill these positions.

These players know what they are doing. They recognize the worth of their fellow players. They know now that (to relapse into gridiron vernacular) if they throw a spot pass to the cross-over end, he'll arrive at the spot the same time the ball does. A few months ago, like as not, the end would have been waving to the blonde in box 34.

This team, we predict, will win the championship. They will make decisions, stick to them, relieve the gnawing uncertainty that has stymied business so badly during 1942.

Readers of this page will recall that we have in the past been sharply critical of many WPB acts, policies, or lack of policy. It's our patriotic duty, we believe, to call attention to glaring errors when the facts come to our attention. That's the job of a free press in a democratic nation; and, in our relatively small sector, we intend to keep a sharp lookout.

On the other hand, we must acknowledge that *almost* everything we have criticized in the WPB has since been corrected.

INADEQUATE INFORMATION AND RED TAPE STILL PROBLEMS

Our two biggest remaining worries—the inadequate information on which decisions are based, and the way red tape ties the hands, arms, and legs of a branch or section chief 20 ways from Sunday—are perhaps impossible of solution in any organization so vast and complex.

The situation is not without parallel in private industry. Let's look back upon the halcyon days of the refrigeration business for a moment.

In an oak-panelled conference room the brass hats of the Siberia Refrigerator Co. are studying the sales charts. Household sales: fine. Ice cream cabinets: great. Room coolers: promising. Water coolers: hm-m-m-m. Sharp dip in the curve. Something must be done!

So, the brass hats solemnly decide to put a water cooler specialist in every territory. Each specialist then gets a staff of sales closers. They go to town. Water cooler sales zoom. The brass hats shake hands all around.

When they come back from their various fishing trips, excursions to Hollywood and Broadway in search of radio talent for their new programs, and inspections of the Miami Beach and Atlantic City branch offices, they discover that beverage cooler sales are off.

RED TAPE PILES ON RED TAPE IN PRIVATE INDUSTRY

Ah! Put specialists on beverage coolers in every territory. That, too, works fine. Pretty soon every product has its corps of specialists.

One fine day in June, eight different product specialists in eight different cars leave the Atlanta branch to go over and call on the Siberian dealer in Bullskid. The Bullskid dealer spends all day listening to each in turn, has no time to wait on customers or go out and ring doorbells.

This phenomenon is repeated all over the country. The comptroller notes the duplicating sales trips, and comes raging into the brass hat conference. The sales manager is aghast because his dealers aren't having time to sell.

So a committee is set up to "plan" company sales trips to avoid duplication. Every proposed trip must be "cleared" through this committee before it can be taken. Another committee is set up to consolidate the specialists, and no specialist is allowed to specialize in his specialty until the Program Consolidation committee determines if first he can't specialize in something else also.

Pretty soon the branch manager can't sign his name to a letter to his wife without "clearing" it through an overhang of committees. And the "specialists" are so confused by the overlapping lines of authority of the executive layers over them that they all go out quietly and enjoy nervous breakdowns.

Eventually things get into such a tangle that the President fires two Vice Presidents, and a New Moses is brought in to lead the children out of the wilderness. The New Moses perceives that what each product needs is a corps of autonomous specialists, and, well, here we go again boys.

This little sequence has been repeated in detail in the War Production Board. A multitude of tasks needed doing. Branches and sections were set up to do them. Pretty soon these branches and sections were riding rapidly off in all directions, bumping into and tripping over one another. So, overlayers of committees and coordinators were set up, through which things must be "cleared" and "channelled." Result was like the kitten and the ball of twine.

They'll Do It Every Time . . . . . By Jimmy Hatlo

HE LIVES IN THE SUBURBS. ORDINARILY, IT TAKES THE WHOLE FAMILY TO GET HIM UP, DRESSED AND OFF TO WORK ON TIME—
C'MON! GET UP! YOU'VE ONLY GOT HALF AN HOUR TO GET TO THE OFFICE.
Thanks to MRS. H.E. HUGHES, TERRACE PARK, OHIO.
BUT THE ONE MORNING THE WIFE DECIDES TO RIDE INTO TOWN WITH HIM, HE'S UP AT THE CRACK OF DAWN AND BEEFING HIS HEAD OFF FROM THEN ON —
HONK! HONK! HONK! HONK!
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4-19

REAL ACTION SHOULD BE FORTHCOMING FROM WPB

The good news is that the pendulum is now swinging back; and for a time, at least, we should see some action.

It's a helluva big job to coordinate the whole United States. As a matter of fact, it's impossible. (Reminds us of the sign: "The difficult we do instantly; the impossible takes a little longer.")

We are not one of those who say: "Don't criticize the boys when they make mistakes. They've got a tough job to do." Sure, it's a tough job. But this is war. The fate of our beloved nation is at stake. Administrative officials must make good or get out. If mistakes are perpetuated, we shall lose the war, or, at best it will be prolonged agonizingly.

On the other hand, when the team finally gets its signals straight and starts rolling toward the goal line, we think it should be cheered on, and applauded.

That, happily, is the situation at the present writing.

LETTERS

ENLISTMENT IN ARMY TO SERVICE REFRIGERATION EQUIPMENT

Colton Equipment Co.
Owatonna, Minn.

Editor:

I have run my own refrigeration business for six years. I have sold some appliances, but most of my work has been the service and installation of commercial refrigeration. I am in 3-A class now but will soon be changed as other fellows are in about my age and dependency.

I am ready to join now but would like to get in the refrigeration or electric end of it. I have been to the Army and Navy but I cannot find out a thing. Do you know of any branch of the service or defense work that I could get in either in the electric or refrigeration end?

CARROLL COLTON

Answer. We have put this question to Captain L. G. Shreve at the Headquarters Office of the Quartermaster Training Center, Camp Lee, Va. (site of the Army's main refrigeration training school), and have obtained the following reply:

"As far as advising you concerning the placing of trained refrigeration men in the proper branch of the Army, I can only advise you that when any individual enters the Service, he is given a very exhaustive classification examination. On the basis of this inquiry, he is then assigned where his talents will be most useful. All trained refrigeration men, of course, are not in the Quartermaster Corps. It is conceivable that an expert in this field might be assigned to the Air Force, for example, to find himself in charge of a cold storage plant at some air base. Every effort is made to utilize a man to his best advantage."

While the Quartermaster Corps will handle the bulk of the work on refrigeration in the Army, there are also some opportunities in some other branches of the service. The Air Corps lists openings for refrigeration mechanics and it is quite likely that it might be possible to get a rather good non-commissioned officer's technical rating in this branch. You will have to get information about this at your nearest Air Corps recruiting office.

There may also be some openings in the Corps of Engineers, although all such openings might require more academic training.

We do not have any specific information about the Navy, but I do believe that they may have specialist ratings for some refrigeration mechanics.

A PATRIOTIC STATEMENT

Gotham Advertising Co., Inc.
2 W. 46th St.
New York, N. Y.

Editor:

The enclosed Statement of Policy by Tenney Engineering, Inc., Montclair, N. J., is so unique in the annals of industry that I think you will want to give it prominence in your editorial columns.

This little sticker is attached to estimates and specification sheets that go out from the Tenney office.

The effects of such a patriotic declaration should be far-reaching, and this policy might well be adopted by all manufacturers serving the war production industry.

G. ELLSWORTH HARRIS,
President.

The Federal Government has from time to time clearly indicated, by word and deed, that for business to make profits from the war effort is against national policy.

In consequence, the directors of Tenney Engineering, Inc. (all veterans of past wars) patriotically bow to this directive.

We consider it our prime and patriotic duty to render any service, regardless of profit, that may help to defeat the common enemy.

Therefore, if the price quoted you in this proposal does not meet with your approval, we will, as a matter of company policy, be pleased to accept your order on a strictly cost basis. TENNEY ENGINEERING, INC.

Airplane Tires In Cold Storage

A unique system in effect at Ellington Field, Texas, world's largest multi-motor flying school, has resulted in the saving of many valuable airplane tires and innertubes. The tires and tubes, along with other rubber items used in maintaining the twin-engined training planes, are housed in a large refrigerator, the temperature always being kept around 55 or 60°. George H. Ullrich, senior storekeeper in the Sub-Depot, is shown as he inspected a new shipment of tires which have been placed in "cold storage" until called to use.

More Freezer Space Being Converted in West Coast District

LOS ANGELES — Southern California refrigeration men report a steadily increasing activity in the conversion of cold storage plant cooler space to freezing space.

In line with the government policy of attempting to conserve every possible ounce of food, these changeovers are particularly numerous and extensive here because of the vast amounts of fresh fruit and vegetables being grown. Many millions of cubic feet of cold space will have been converted before the year is over, according to leading refrigeration men.

Among the plants which have made recent large-scale conversions here are the National Ice & Cold Storage Co. at its Los Angeles and Riverside plants, and the Valley Ice & Cold Storage Co. at Hemet.

In the latter case, the new freezer space is devoted to the processing of vast quantities of apricots. Under ordinary cold storage conditions, this fruit is good for only about 30 days. Frozen, its life is practically indefinite.

The fruit is being frozen in halves and in pulp form. The halves are packaged in barrels, in 30 pound tins and in small cellophane packages. The barrel pack, in which sugar is used, will provide quantities of fruit for large consumers such as the army, hotels and restaurants. The small packages will be sold at retail — in regular grocery store frozen food coolers.

Since priorities are much less difficult to obtain on these conversion jobs than on many other types of work, several large refrigeration companies are specializing in these jobs. It's nice clean business—and profitable business.

Fruit Cold Storage Plant Completed at Tulare, Calif.

TULARE, Calif.—A fruit cold storage plant, said to be the first of its kind in the San Joaquin Valley, has been installed on the Ray Bodine fruit ranch north of Tulare, for the convenience of Mr. Bodine's local customers.

The new unit has a capacity of 1,500 lug boxes of fruit, and is equipped with a 3-hp. York compressor, and cooling tower. Thermostatic temperature control holds temperature inside the room to a differential of 3° F. Mr. Bodine is now completing a packing house to enclose the cold storage room.

Installation of the plant was made by Felix Hawthorne, who is associated with Robert C. Fish in the Valley Refrigeration Service here.

For the past several years, the owner of the new cold storage plant has won sweepstakes for peaches at the Tulare-Kings County Fair. In addition to a large local trade, Mr. Bodine so far this season has shipped 15 carloads of freestone peaches and 1,500 boxes of plums.

Zarotschenzeff Back After Building of Quick Freeze Plant

NEW YORK CITY—M. T. Zarotschenzeff ("Mr. Z"), technical director of the National Frosted Foods, Inc., has returned from an extended trip through South American countries, main purpose of which was the construction of a quick freezing plant of 60,000 pounds daily capacity for lamb cuts at Rio Grande on Fireland (the tip of South America).

This project required the assembly of machinery and parts in Buenos Aires, transportation over 2,000 miles by water, and erection of the plant under conditions recalling pioneer times. Notwithstanding the natural difficulties, in accordance with Mr. Z's latest process of quick freezing, the plant was completed on schedule and produced about 1,000,000 pounds of lamb cuts within six weeks.

"This is perhaps the first time in the history of refrigeration and meat production that lamb carcasses were cut into uniform consumer units, trimmed of excess fat, partly boned, wrapped in moisture-proof cellophane, and quick frozen by one of the most modern methods," says the says the technical director.

The finished product together with nearly 3,000,000 pounds of regularly frozen lamb carcasses was loaded on the refrigerator steamer for shipment to this country. However, at the last moment, the shipment was re-directed to England.

Refrigeration and Air Conditioning As a War Production Tool

By L. W. Clifford, Sales Development Section Supervisor, Westinghouse Electric & Mfg. Co., East Springfield, Mass.

1. Storage of Flying Suits

A periodic cycle of cooling and heating is proving to be the best method of protecting expensive wool-and-fur flying suits from moths while they are stored between flights. Due to their frequent use, chemical treatment is not satisfactory and may even damage furs.

The normal storage temperature is 35° to 40° F. In the "shock" cycle, the storage room temperature is reduced to 15° F. for several days to kill any larva which may be feeding. Then, by cutting off the refrigeration and introducing heat (usually from strip heaters in the supply duct or coil chamber), the storage room temperature is quickly raised to 50° F. where it is held for a few hours only. This causes any surviving larva to again become active and will hatch out any like-wise potentially dangerous eggs.

The temperature, after this few hour period at 50° F., is again suddenly dropped to 15° F. for a day to kill off the surviving larva and any larva newly hatched. After one day at 15° F. the temperature is brought back to the 35° F. or 40° F. storage condition.

This entire procedure is repeated at regular intervals or, to prevent reinfestation, when any appreciable quantity of untreated articles of clothing is placed in the storage room. Relative humidity is high enough to prevent drying and cracking of the fur skin, but low enough to prevent mould or mildew. During the normal storage period with temperatures of 35° to 40° F., the relative humidity is about 50% to 65%.

Typical installations include a flying school using an open-type 7½ hp. condensing unit with 2-speed motor, and a horizontal type air handling unit with refrigeration coil.

At one typical aircraft factory three 25-hp. condensing units, four air handling units with refrigeration coils are used.

Cold Room Teaches Aviators To Take Photographs In 30,000 Ft. Conditions

DENVER—Novice army photographers undergoing training at the Lowry Field Photographic School near here are learning to make corrections for the extreme cold prevalent of high altitudes in a "cold room" which is now part of the regular training program.

The "cold room" is an 8 x 10 foot chamber equipped with a 25-ton York compressor which will pull the temperature down from 100° above —30° F. in 15 minutes. Fledgling photographers don heavy leather suits, focus their cameras on miniature maps, and are taught to make adjustments in cold simulating 30,000 feet altitude.

Home Insulation Business Added by Danforth Co.

PITTSBURGH—In order to keep its personnel during the war, Danforth Co., local air conditioning firm, has opened a home insulation business, announces I. W. Danforth, who reports that for the first 30 days, "business is excellent."

Wilbur C. Sutherland, manager of air conditioning sales, is in charge of the new department.

For home insulation, Danforth Co. is handling the rock wool line of National Gypsum.

FAMOUS LIFE LINES

1 NEWFOUNDLAND, important way point on our life line of communication with Greenland, Iceland and England, has its rocky coastline guarded by American soldiers, like this one in his machine gun nest.

2 THIS M 4 TANK'S life lines—its oil lines, fuel lines, conduits and many other parts — are made from Bundy Tubing, as are similar parts on much of the Army's mechanized equipment.

All photos by U. S. Army Signal Corps

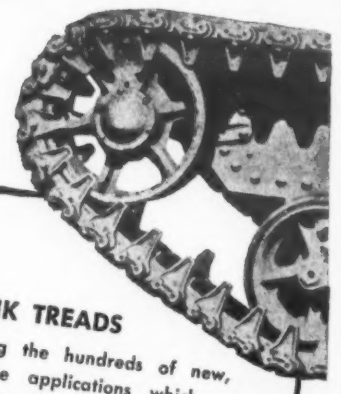
ON FAR-FLUNG fronts all over the world . . . from Dieppe to the Solomons, in China, India, Africa, Australia . . . wherever U. S. armed forces and fighting equipment are needed, Bundy Tubing is a vital life line.

The wide variety of uses of this famous tubing, long accepted by industry as standard for strength, ductility and resistance to vibration fatigue, grows greater daily as war production increases. New weapons, more weapons, better weapons require constant new tubing life lines for transmitting fuel, lubricants or hydraulic pressure, and for various mechanical and structural applications.

On the land . . . in tanks, jeeps, armored cars, cargo trucks, gun carriages; in the air . . . on bombers, parachutes, flares, transports, pursuit planes; and on the sea . . . in PT boats, subs, minesweepers, rescue tugs, escort vessels . . . Bundy Tubing is being used today.

In other less warlike but equally important roles, such as lubrication and fuel lines for ambulances, condensers and connecting lines for refrigerators, conduits for medical lamps, tubing for army cook stoves, water heaters and water coolers, Bundy also fills a vital need.

Whatever the purpose or the product, if you need tubing in your war production, be sure to get the complete story of Bundy Tubing's adaptability, its wide range of sizes, and of Bundy's complete engineering research service. Bundy Tubing Company, Detroit, Michigan.



TANK TREADS

Among the hundreds of new, wartime applications which are keeping Bundy's constantly increasing facilities at full capacity is that of furnishing certain of the component parts for tank treads.

BUNDY TUBING

ENGINEERED TO YOUR EXPECTATIONS

BUNDYWELD double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From Capillary sizes up to and including ½" O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.

BUNDY ELECTRICWELD steel tubing. Single-walled — butt welded — annealed. Available in sizes up to and including 2" O. D. Can be furnished tin-coated outside in smaller sizes.

BUNDY "TRIPLE-PURPOSE" tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel; all steel; Monel inside—steel outside; Monel outside—steel inside. Sizes up to and including ⅝" O. D.

METHYL CHLORIDE

by Ansul

HIGHEST QUALITY
FAST, FRIENDLY SERVICE

PUT THE EMPTIES TO WORK Now!
Don't keep empty cylinders idle and out of service. Ship them back now!

ANSUL CHEMICAL COMPANY
MARINETTE, WISCONSIN

AC-56

LET US ACQUAINT YOU WITH THE ANSUL JOBBER NEAR YOU

Editor's Note: The editorial material on these pages is a published version of "Servicing Scotch Yoke Machines," originally presented as a sound slide film produced by the Product Service Division of General Electric's Appliance and Merchandise Department. The material is appearing in instalment form in Air Conditioning & Refrigeration News, by permission of the General Electric Co.

The first two instalments, Sept. 28 and Oct. 12, covered the fundamental design features of the General Electric household electric refrigerator system.

Self-Contained System Employed in New F-M Spot Welding Tip Cooler

CHICAGO—As a solution to the problem of making welding faster, cleaner, and more efficient, the Fairbanks-Morse spot welding tip cooler is being produced by Fairbanks-Morse & Co. here.

The new F-M unit is a self-contained cooling apparatus which circulates a special non-corrosive, non-precipitating solution through welding tips of a spot welder.

By making possible faster, cleaner welding, the F-M spot welding tip cooler has made it possible for aircraft plants to increase the number of aluminum spot welds between tip cleanings as much as 1,400%, engineers for the company declare.

Operating fundamentally as a refrigerating machine, the unit is equipped with two pumps driven by motors having cycling overload relays. An F-M Built-in-one group recirculating pump — operating continuously with the compressor—circulates "Freon-12" refrigerant through the evaporator for high heat transfer.

An F-M Built-in-one turbine-type pump circulates the special solution of high specific heat characteristics from the unit to the welding tips and back to the unit. This pump, which has a high-pressure cutout, is controlled by manual switch.

Refrigerating machine used is a thermostatically controlled, 4-cylinder, vee-type compressor.

The entire unit is 55 inches high, occupying 25 x 44 inches floor space. It can be operated at once simply by connecting condenser water lines and electrical circuit.

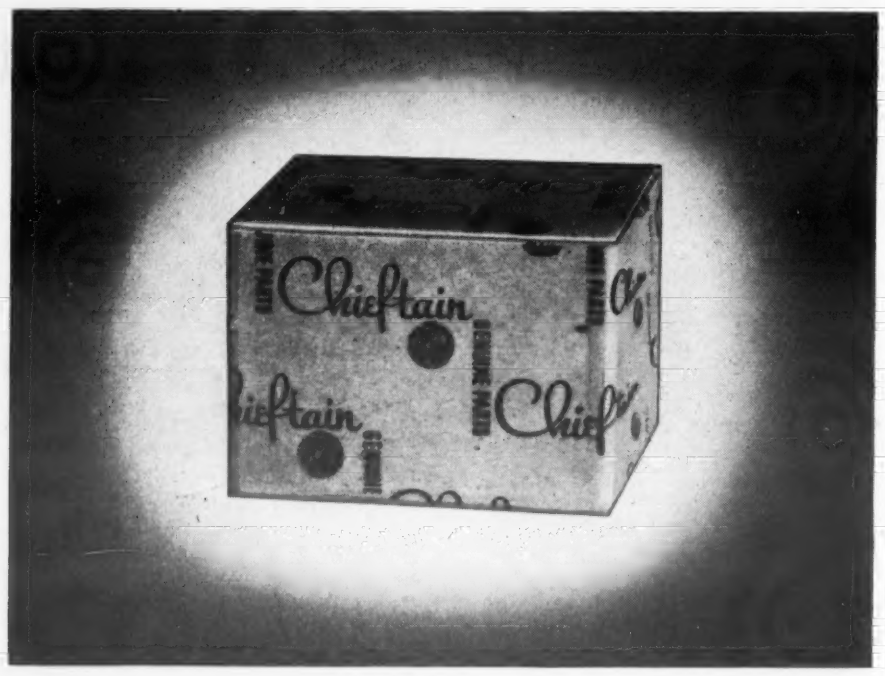
Although the spot welding tip cooler is designed to cool tips of one spot welding machine only, a battery of machines may be cooled by using a central cooling system.

WATER COOLING
EVAPORATORS
KRAMER TRENTON Co.
Heat Transfer Products
TRENTON, N. J.

AMINCO OIL SEPARATORS
1-3 h.p. to 120 Tons
American Injector Company
1481 14th Avenue, Detroit, Mich.

La Crosse Beer Dispensing Equipment with a National reputation for Quality and Performance.
La Crosse Novelty Box Mfg. Co.
LA CROSSE, WISCONSIN

FOR YOUR PROTECTION



genuine Chieftain parts

FOR YOUR protection, Chieftain sends all its parts to you in this distinctive genuine parts carton.

Immersed in oil and sealed in Plio-Film (Patented air tight package) before it is placed in the carton. The smallest part Chieftain makes arrives moisture proof and dust proof.

Remember, it pays in the long run to buy genuine Chieftain parts.

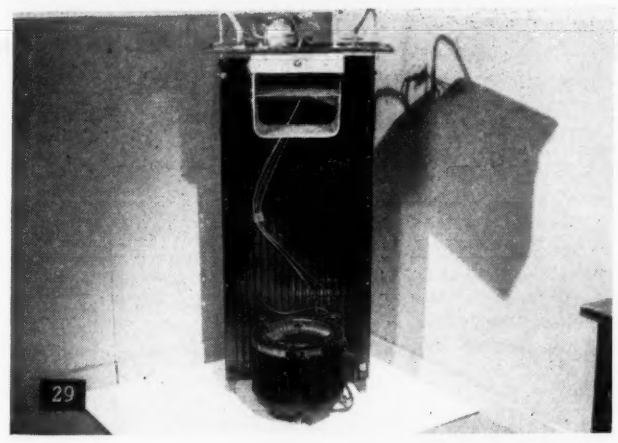
TECUMSEH PRODUCTS CO. TECUMSEH MICHIGAN

Chieftain

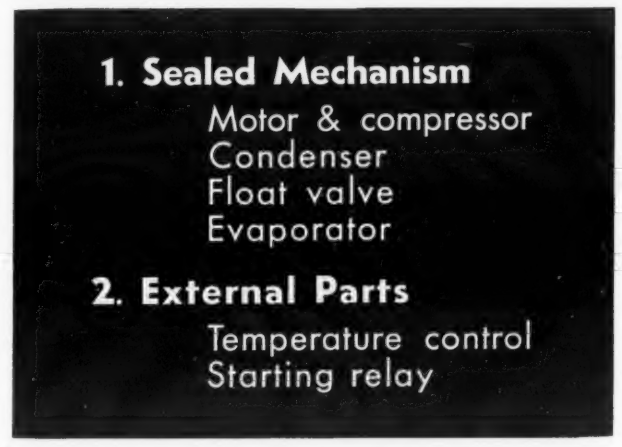
Servicing the G-E Scotch Yoke Refrigerator Machine

From the General Electric Service Dept. Educational Film of the Same Name

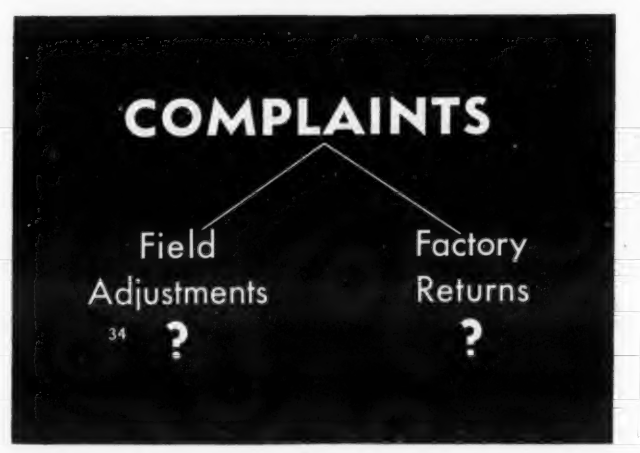
(INSTALMENT 3: FINDING OUT WHY SEALED MECHANISM WILL NOT RUN)



(29) Now, we've covered all the basic elements of the machine. We have an idea of the part that each plays in producing refrigeration. Let's review.

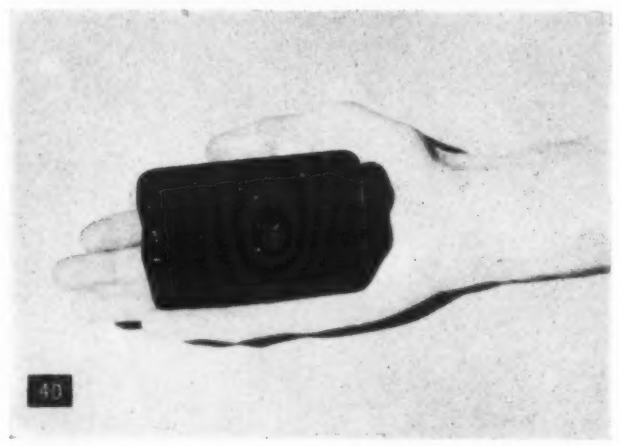


(30) While sealed machine is designed to stay sealed after it leaves the factory, there are certain adjustments and corrections that can be made in the field.

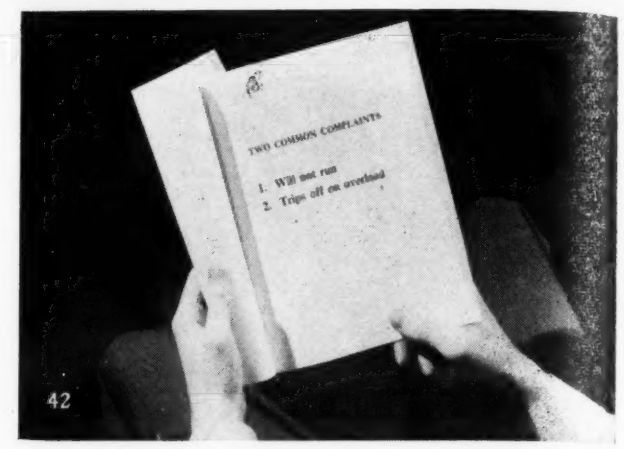


(34) The first, and most important job of the service man when he "Diagnoses a Case," is to dig into his pile of knowledge. First, he must find the trouble; second, reassure the customer; third, decide whether the trouble can be corrected in the field.

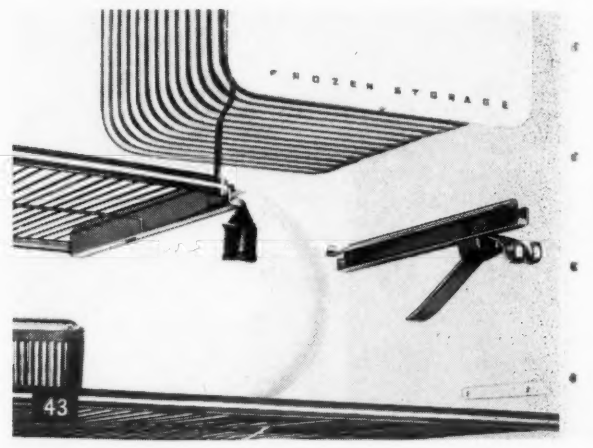
(36) Why is this so important? If the trouble is something that cannot be taken care of in the field, the machine should be replaced as quickly as possible. However, if the trouble can be taken care of by field service, it is important that you do this.



(40) Perhaps the only requirement was the replacement of a starting relay.

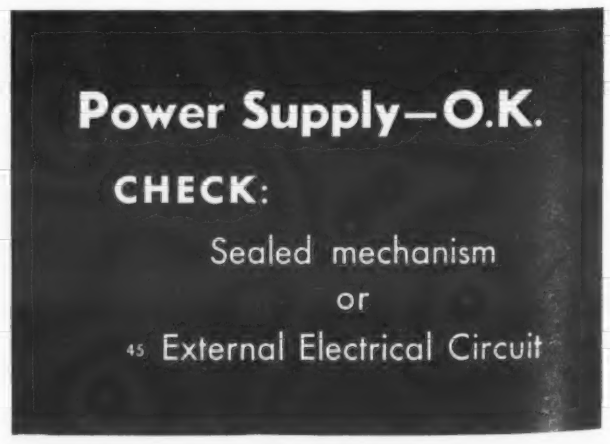


(42) Two of the most common complaints are that the machine—First, "Will Not Run"—or second, it "Trips Off on Overload." The first step in correcting these complaints is to check the power supply.

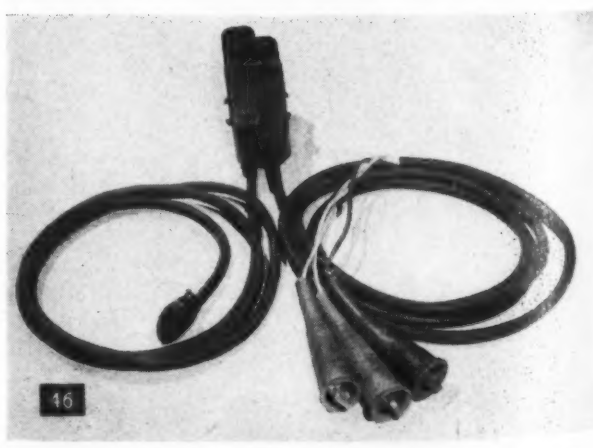


(43) Fortunately for the service man, most refrigerators are equipped with cabinet lights, and if the light works, we know that electric power is being supplied to the machine.

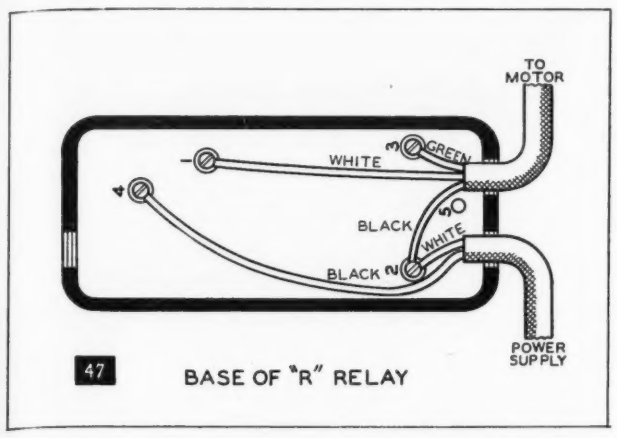
(44) However, if the light does not work, or there is none on the cabinet, check the wall outlet. A bad fuse or defective house wiring may be the cause of the trouble.



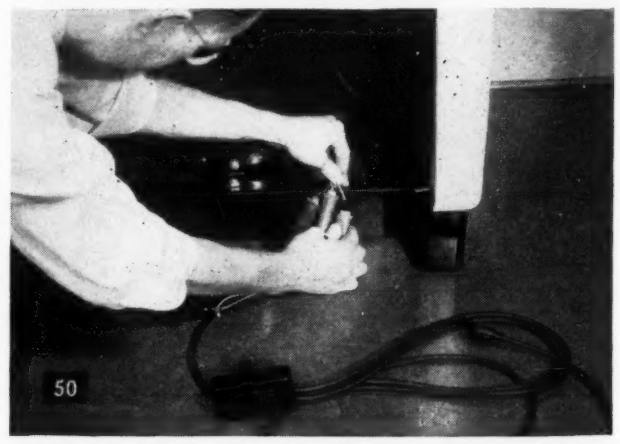
(45) If the power supply is OK, the next step is to determine whether the difficulty is in the sealed mechanism or in the external electrical circuit.



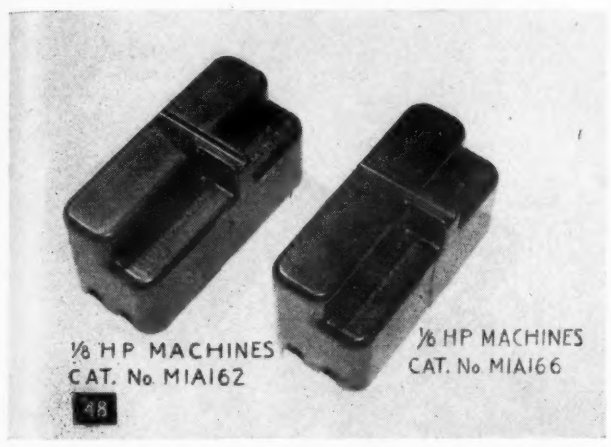
(46) The simplest and most reliable way to do this is to use a test set made up from a standard relay, connecting cord, and piece of three-wire cable fitted with test clips.



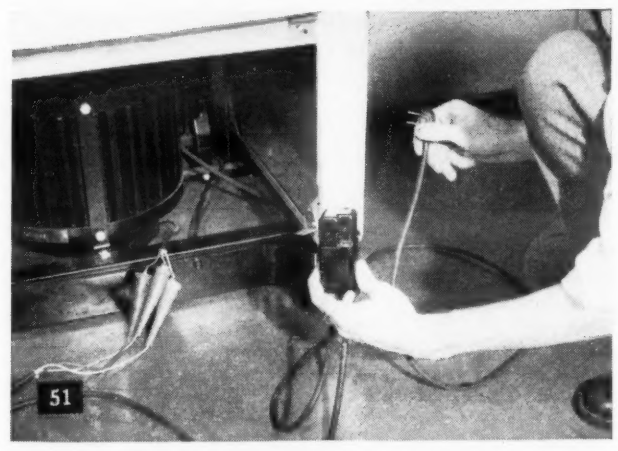
(47) The cable, connecting cord and relay are wired together as on a machine, except that the black lead of the connecting cord goes to terminal No. 4 of the Type R relay, which eliminates the control circuit.



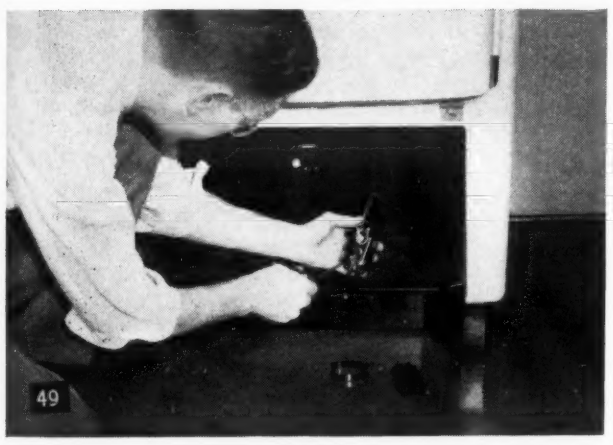
(50) Clip the test set leads to the three motor leads, black to black, green to green, and white to white. On older machines the colored lead is red instead of green.



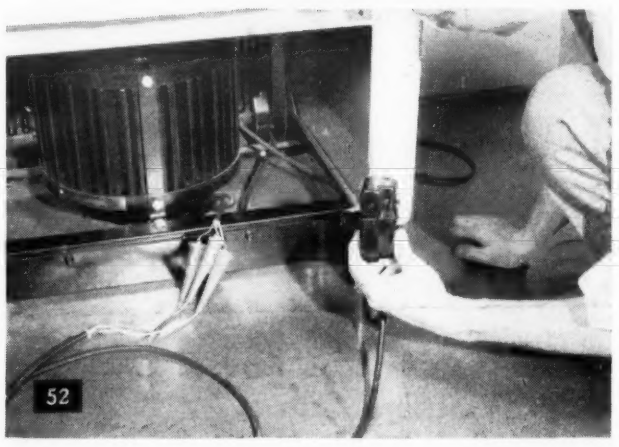
(48) Only the Type R relay should be used. With ⅛-hp. machines, use Cat. No. M1A162 Relay. With ⅙-hp. machines use Cat. No. M1A166 Relay.



(51) Hold the relay vertical and plug in the connecting cord. The external electrical circuit has now been replaced by a test set that is known to be good.



(49) To use this test set, dismount the relay from the machine and disconnect the three leads coming from the compressor case.



(52) If the machine operates, it is obvious that the trouble is in the external circuit. Most machines will start with the test set—and once you have isolated the trouble in this way, it is apparent that the machine does not need replacing.

Westinghouse Promotion Asks Users To Use Full Capacity of Motors

EAST PITTSBURGH.—In a drive to get more war production out of electric motors and at the same time save up to 40% of the copper, steel, and aluminum used in their manufacture, Westinghouse Electric and Manufacturing Co. recently began a calling-all-horsepower campaign.

This is being done in cooperation with the War Production Board which has asked motor users to load each unit to the limit.

In a letter to Westinghouse engineers, salesmen, jobbers, and industrial agents, A. C. Streamer, Westinghouse vice president, wrote:

"It may seem strange to you that we, who have always been advocates of conservatism in the application of motors and controls, should now promote an upward rating, but the shortage of critical materials is daily becoming more acute, and it is, therefore, definitely up to each one of us to do our part in conservation."

To make full use of all motor horsepower, six recommendations were made:

1. Motors open to the air should be overloaded 25% above their nameplate rating unless the surrounding temperature is exceptionally high. Enclosed motors can be overloaded 10% and direct current open motors 15% under the same conditions.

2. Most plants using small motors have 220 or 440-volt power supplies. WPB has asked that 440 volts be used because this reduces the amount of copper required in leads and control apparatus.

3. Use of standard sealed sleeve bearing motors unless ball bearing motors are absolutely essential. Ball bearings are urgently needed in other war machinery.

4. Use motors of highest practical standard speed and void use of multi-speed motors. Faster motors are smaller and require less critical materials to build.

5. Use alternating current motors in preference to direct current types wherever possible. This saves substantial amounts of copper and helps alleviate a shortage of direct current motor manufacturing capacity.

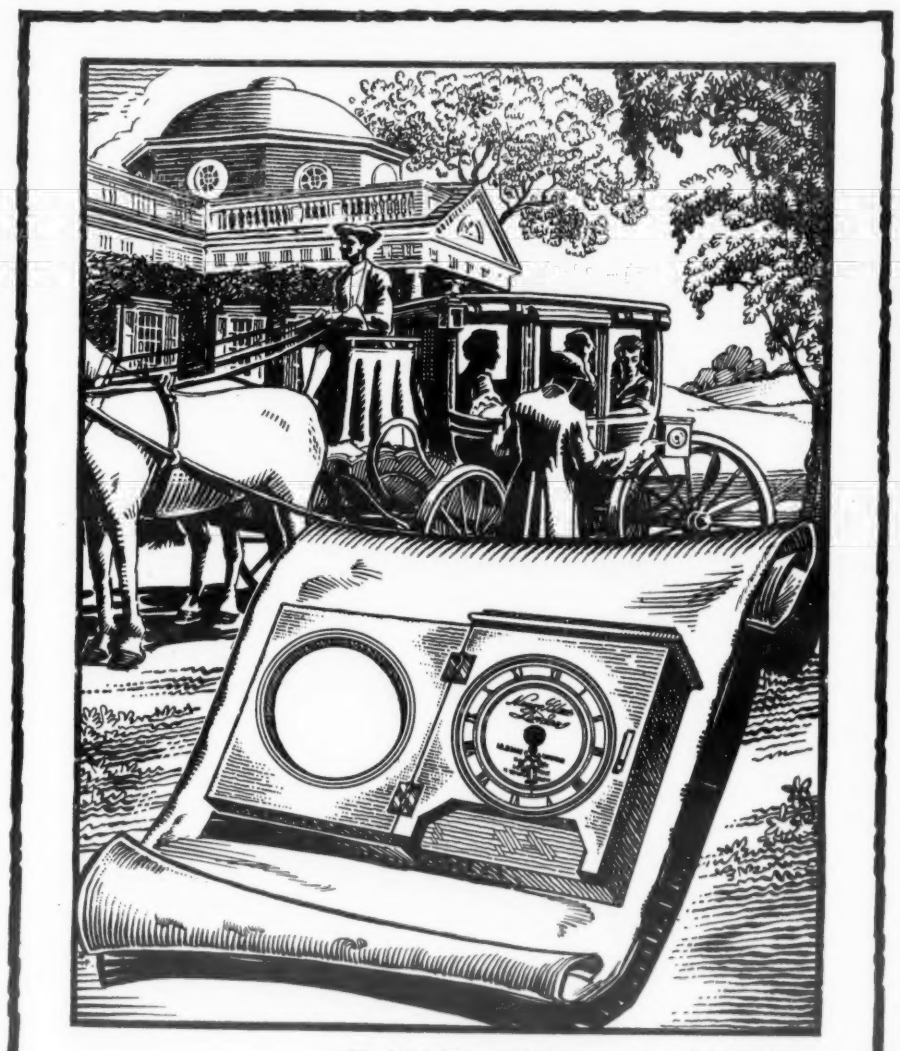
6. Match control and circuit protective equipment to the motor on the basis of nameplate horsepower rating, thus getting the maximum use from control equipment.

These examples were cited:

Thirty-six pounds of vital materials are conserved by using a motor rated at one horsepower, instead of 1½ horsepower, for a 1¼ horsepower load.

Sixty-three pounds of materials are saved by using a motor rated at five horsepower for a 6¼ horsepower load. Originally, a motor rated at 7½ horsepower would be applied to such a job.

Five hundred and fifty pounds of material are saved when a motor rated at 100 horsepower is used for a 125 horsepower load. Usually, a 125-horsepower motor would be ordered.



Virginia's Thomas Jefferson, author of the Declaration of Independence and the third President of the United States, measured distances by the first Odometer, fastened to his carriage wheel. This Odometer was the forerunner of our modern speedometer. Jefferson took pride in showing his latest "gadget" to his neighbors at Monticello; he also spread the word of the new invention wherever he went.

VIRGINIA—a name that has earned respect

The same enthusiasm for progress and efficiency in the maintenance of the high standard of Virginia's products is reflected in every department of Virginia's organization. Each customer receives a full measure of attention and satisfaction.

It's a good motto that says, "Nothing will benefit the Company that does not benefit the Customer in particular, and the Industry in general."

BUY WAR BONDS & STAMPS

"VIRGINIA" REFRIGERANTS
AGENTS FOR KINETIC'S "FREON-12"
VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

VIRGINIA

We, too, SERVE UNCLE SAM

● By now people generally have begun to realize that refrigeration and air conditioning are more than conveniences and luxuries. Both are vital necessities to our nation's success in the war!

That fact practically puts us in the army. We in this industry who supply and service the equipment on which so much depends, have a responsibility that goes far beyond our peace-time obligations.

Every time a refrigeration service man repairs existing equipment, restores it to efficient operation, he strikes a blow for Uncle Sam. Whenever existing automatic controls cannot be repaired to serve, Penn can supply the needed refrigeration controls under existing priority rules.
Penn Electric Switch Co., Goshen, Indiana.

PENN CONTROLS
REFRIGERATION, AIR CONDITIONING, ENGINE HEATING, PUMPING AND AIR COMPRESSOR

42 Attend Outing of New England Jobbers At Avon, Conn. Club

AVON, Conn.—Undaunted by gas rationing, copper shortages, priorities, etc., the New England Refrigeration Jobbers' Association held their Fifth Annual Outing at the Avon Country Club with 42 members present, an attendance not as large as in former years.

A golf tournament and a banquet were arranged by Joe Simons, Carle Payson, and Frank Morley who were in charge. Winners in the golf tournament were:

Low gross—A. C. Homeyer, Ranco, Inc.; 2nd gross—E. C. Eldredge, Virginia Smelting Co.; low net—R. W. Sidbury, Chase Brass & Copper Co.; 2nd net—Art Wasserman, Marsden & Wasserman; least putts—George Boone of Tecumseh; most putts—W. A. Siegfried, Kerotest; and most 5's—George Cage of Detroit Lubricator.

H. A. "Happy" Chandler of McIntire Connector Co. was presented with a deluxe E model YoYo for highest gross.

After the banquet, prizes were awarded by popular vote to: H. A. Chandler — handsomest man; C. E. Borden of Boston—lady killer; Paul Wright of Gilmer—baldest man, and Chaunce Coombs of White Rodgers—tall story champ.

Smith, Yetter & Griffin Get Army Plant Contract

PENSACOLA, Fla. — The United States army has awarded a contract to Smith, Yetter and Griffin, of West Palm Beach, for construction of a refrigeration plant. The cost is estimated to be between $100,000 and $500,000.

Home Freezer Market Booming, Markley Tells ASRE Meeting; Cites Advantages Of Equipment in Wartime Economy

BALTIMORE—"Public interest in the freezing and preservation of food in the home has changed from mere curosity into an insistant and ever-growing demand for freezing and storage cabinets to be used in the home," asserted Richard Markley, Jr., of the Wilson Cabinet Co. before a recent meeting of the Baltimore-Washington section of the American Society of Refrigeration Engineers.

Talking on "The Farm Freezer, Its Future and Its Place in the War Effort," Mr. Markley gave credit to locker plants developed by the frozen foods industry, but pointed out additional savings in time, food quality, and even gasoline and rubber, brought about by use of the farm freezer, especially to persons growing their own produce.

"If the locker plant is located five or 10 miles away, and few localities have them any closer," he said, "then it is usually necessary to prepare a comparatively large quantity of vegetables or fruits for freezing in order to warrant the expense of driving to and from the locker plant."

"Unfortunately," he continued, "large quantities of vegetables or fruits do not always ripen at the same time in the garden and orchard, and therefore several trips have to be made. Even in normal times, this adds to the cost of the food, and in war times the additional gasoline and tire mileage is prohibitive."

Turning to the quality of food, Mr. Markley declared, "If the housewife has a farm freezer at home, she can freeze peas, asparagus, beans, strawberries, raspberries, and many other vegetables and fruits, in smaller quantities each day as each reaches its peak of perfection."

He included poultry and game among foods conveniently frozen in the farm freezer, and added that at fall slaughtering time, pork and beef cuts could be wrapped in moisture-vapor-proof paper and similarly frozen.

Mr. Markley also showed the practicability of buying crates of citrus fruits, in season, extracting the juice and freezing it; grapefruit juice sweetened with honey and then frozen makes a delicious drink, he advised.

"Vegetable soup, made from garden-fresh vegetables and then frozen can be served during Christmas week, as well as home-made ice cream with tree-ripened peaches or luscious strawberries," he suggested.

As presented by Mr. Markley, the farm freezer becomes a reservoir of good food from which the housewife can draw at any time without worry about the grocery store's or locker plant's being closed.

Tracing the development of frozen foods, he commended the frozen foods industry for the job it did in preparing and packaging such a variety of fruits, vegetables and meats, and for creating in persons the desire to have that "fresh from the garden taste that is so completely lacking in canned foods."

"The frozen food locker plant was the solution to some of the problems that arose," he agreed, "and the services rendered by the locker plants to their customers make it possible for many thousands of families to freeze and store millions of pounds of food each year."

Mr. Markley mentioned the loss in vitamines and the food spoilage that characterize other methods of preservation compared with freezing. Furthermore, he pointed out savings in rubber jar rings and zinc jar tops, as well as the many hours of work formerly spent in canning or preserving.

To complete his opinions about the farm freezer, he stressed a few facts about correct sizes of the cabinet.

"There is no comparison between a household electric refrigerator which is intended to hold only a few days' supply of food, and a freezer storage cabinet which is intended to hold several months' supply of food," he emphasized.

Although the variety and volume of food stored in a freezer depends on the individual's own desire, he said it was surprising how quickly 10 to 20 cubic feet interior capacity fills up when food is stored away in it for future use.

To illustrate, he told of a manufacturer who planned production of 14-cubic-feet and 23-cubic-feet freezer storage cabinets on a ratio of 75 to 25.

"Actual sales showed," revealed Mr. Markley, "that the ratio should be reversed, 25 to 75, and the demand for 30, 40, 60, and even 80-cubic-feet cabinets also built by this manufacturer far exceeded expectations."

This indicates, Mr. Markley believes, that the public is seriously weighing reasons for investing in freezer storage cabinets, and is willing to buy the larger sizes at greater initial cost, to insure adequate space for freezing and storing a sufficient quantity of food for its families.

Grocery Opens 400-Unit Food Locker Plant

SOUTH LIBERAL, Kan. — The Allen & Parnell Grocery & Market here has installed a 400-unit refrigerated locker plant in its building, for the use of rural customers. A large processing shop is located inside the main store building, and meats are displayed while being pre-cut to their owner's specifications.

Grange Operator Switches To Frozen Food Lockers

BATH, N. Y.—Finding his automobile repair business falling off sharply, Gordon A. Bartz of the Bartz Garage here has converted his building into a 260-box locker storage plant.

Liquor Store Operator Finds Promotion of Chilled Wine Pays Dividends

Frank Antonelli of Ted's Liquor Store, Denver, arranges a display of beer in the large reach-in unit in his store. He also has a special walk-in cooler for wines.

* * *

Large Walk-In Refrigerator Used for Wines

DENVER—One aspect of liquor-store refrigeration which has been consistently overlooked by retailers is the opportunity to push chilled wines the year around, according to Frank Antonelli, operator of Ted's Liquor Store, Denver.

Wine sales at this leading Denver package store, serving a wealthy residential area of the city, were increased by more than 40% in a single year through aggressive promotion of wines chilled in a specially-constructed walk-in refrigerator.

Mr. Antonelli has laid emphasis on chilled ports, muscatel, sherry and dinner white wines. He has managed to roll up an imposing list of Denverites who serve wine regularly with meals. However, one difficulty always in the way with suggesting chilled wines was that the store had no facilities for properly chilling them in advance of sale and consequently, there was no substantiation of the talking point. Wine buyers often chilled wine too cold or not enough in their home refrigerators, and complained about it.

SPECIAL REFRIGERATOR

The natural answer was store refrigeration, but the small size of the store made this difficult until Mr. Antonelli hit upon the idea of a large walk-in box which could be placed behind the rear partition of the store, with display-type glass doors at the front through which his customers could see an impressive display of chilled wines. He went to several contractors before finding one who could build a refrigerator of this type; a custom-made unit which measures approximately seven by eight feet, and contains enough room for wine, beer and other liquor store items. Young Refrigerator Co. won the contract.

No space was lost in the store by installing the box thus in the rear, and as the refrigeration compressor and condenser are located atop the box itself, there is about the same amount of storage space—with the improvement that much of it is now cold storage.

PAID IN WINE ALONE

The $600 spent for this important improvement in a little more than a year had paid for itself in wine sales alone, according to the management.

About 12 cases of chilled wines, including a separate display along the glass doors in front for quick handing over to customers, are accommodated in the box, which is kept to a smooth temperature of 36° F. with minimum relative humidity by a ceiling diffuser—which circulates cold air evenly over the interior.

A General Electric compressor is used, provided with a thermostat for automatic temperature control and defrosting, and the unit is so arranged that it can be reached for service with a minimum amount of trouble. Box walls are built of cork-insulated wood, with a vestibule-type door to protect temperatures.

Wines for chilling are placed in the exact center of the walk-in refrigerator, and left for at least eight hours before sale. There are four small glass doors at the front in two levels, with wooden display shelves. On these shelves 48 bottles of wine can be accommodated, always being arranged for display from the box interior, using wines which have been cooling for the eight-hour period. Thus moving the stock forward, the customer is sure of getting a properly chilled bottle at an exact 36° F. temperature.

Case orders are never delivered until another case replaces it in the center of the cooler. Split cases for smaller orders are spaced on the rear shelving, and are likewise cooled at least eight hours before being sold. Religious adherence to this cooling schedule is the only way to make the idea work, Mr. Antonelli states—thus no Ted's customer has ever been sold an insufficiently chilled wine. Whenever a sale of a single bottle or a case is made, it is the store personnel's job to replace it, or to move another chilled bottle into the vacant spot.

The visible chilled wines have lent themselves admirably to store merchandising.

"We find a strong selling point in simply calling attention to the rows of wine bottles attractively on view behind the glass" Antonelli explained, "particularly during the summer months.

SUGGEST WINES

"When a customer comes in who buys spirits frequently, we can suggest additional pleasure from chilled wine which doesn't require ice. Women like the idea, and family men whom we have encouraged to serve wine on the table with regular meals quickly see the point. The box has sold a lot of wine for us without any suggestion on the part of store people; since many customers are surprised to see it there and want to ask questions.

"It is surprising how many regular liquor customers do not know that some wines should be chilled—and any such are logical buyers of wine."

Use of the refrigerator and persistent suggestion by the store staff has made the store well-known among Denver wine connoisseurs—who talk about the display, suggest it to friends, and thus create a traffic of customers the store could not obtain otherwise. One man who came in in May bought two fifths of sherry, then a week later three more, and since has been ordering by dozens.

A card in the window advises passersby that Ted's features chilled wines, and lists varities included. All deliveries, which account for most of the new volume, are scheduled so that the delivery car stops at the chilled-wine customer's home first.

Mr. Antonelli has had a small ice-chest built into the rear of his car, into which all chilled wine slips while enroute to the customer—a simple precaution which guards against dissatisfaction.

"We're going after wine sales even more heavily through the war" he said, "and believe that the intrinsic merchandising value of chilled wines is one of our major assets."

NEED METHYL CHLORIDE?

Now is the time to get it!

Ample supplies of Methyl Chloride are at present available for the charging and servicing of installations which may be constructed or serviced under existing War Production Board regulations. We expect to be able to fill the approved requirements of the refrigeration industry so far as material is concerned. It is suggested that you do not stock up unnecessarily. Electrochemicals Department E. I. du Pont de Nemours & Co. (Inc.) Wilmington, Delaware

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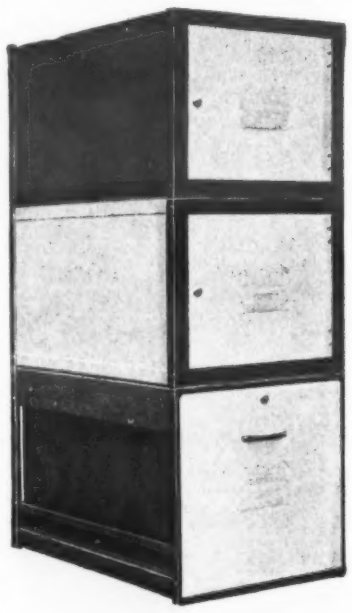
Don't let idle cylinders hold up supplies now available. Look through your stocks and warehouses for any empty cylinders, or cylinders which can be emptied . . . *and return them promptly.*

Better Things for Better Living . . . Through Chemistry

Again Master *Scores* with the NEW MASTER FOOD CONSERVATOR

This successor to the Locker, meets every requirement necessary to the economical operation of the Locker Plant.

Locker Operators at the Kansas City National Convention acclaimed it a big advancement in design and construction and a worthy successor to the Locker. Here are a few of its many features.



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- Matches your present drawers and door fronts
- Food odors not absorbed
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Order Now — Expand

The Master Food Conservator offers you the opportunity you have been waiting for, to expand in your available space so as to take care of your waiting list. Its appearance and construction maintains the inviting appearance of your present equipment.

Endorsed by and sold only through distributors of refrigeration and insulation.

MASTER REFRIGERATED LOCKER SYSTEMS, Inc.
121 Main St. Sioux City, Iowa

Over 300,000 Masterbuilt Lockers in Use

The Priorities Quiz

(Air Conditioning & Refrigeration News, with the aid of a man who is actually engaged in handling much priorities work, will attempt to answer questions from readers about priorities problems. The editors will not guarantee to answer all questions, nor can they guarantee that the answers will be legally perfect, but an effort will be made to provide a guide to correct procedure wherever possible.)

Q. Do I need a priority to get repairs on a refrigeration part which is sent to a manufacturer to be repaired in his plant?

A. This is a question that cannot be answered simply "Yes" or "No." It depends upon many factors.

If the repair can be accomplished with a few small parts in which no critical metal is involved, a priority may not be needed.

If the substitution of a complete part such as a valve or control is involved, a priority will, undoubtedly, be necessary.

If the part or valve or control can be returned to the factory for repairs and the use of critical metals is not involved in completing the repair work, a priority may not be necessary.

A manufacturer in handling a repair problem is confronted with this situation: He is restricted by certain of the materials and limitations orders to using certain critical materials in high-rated work only, and he is also confronted with the problem of finding available man hours regulations compel him to fill rated requirements first and with the for unrated work. Basic priority shortage of man power it becomes difficult—if not impossible—for him in many instances to handle even the simplest kind of an unrated repair order for the rated work must be done first even though it has arrived at the manufacturer's place of business long after receipt of unrated repair orders.

A good example of the material situation involved in refrigeration equipment repairs is furnished by both the Copper Order (M-9-c) and the Stainless Steel Order (M-21-d). Under the terms of the copper order, a manufacturer is permitted to use a limited amount of copper in making a specific repair without further restriction except that he must be assured by the person for whom the repair is made that a similar amount of copper salvaged from the worn out parts replaced is turned over to an authorized scrap dealer. (There is no specific form of report sheet for the men in the field to use to show that he has turned over an equal amount of old copper for scrap purposes. The order says that the manufacturer must get "assurances" from his customer that it has been done.) Under the terms of the Stainless Steel Order, however, the same manufacturer is restricted in his use of stainless steel to filling orders with preference ratings of A-1-k or higher. Thus, where copper alone is required in making a repair, the priority may not be required if man hours are available to do the necessary work, whereas, if the use of stainless steel is involved (as it often is) a priority of A-1-k or higher will be required under the terms of the Stainless Steel Order as it now reads.

While this answer has been necessarily involved, it can be briefly summarized as follows: The possibilities of a manufacturer being able to handle your repair work without a priority are very slim. In a limited number of cases, it may be possible. To be assured of receiving your repaired goods or repair parts within reasonable time, a preference rating should be secured.

* * *

Q. The refrigeration Repair Order (P-126) covers only commercial installations. How do I get a priority rating on repair parts for domestic installations?

A. Under existing regulations, you may purchase repair parts for domestic installations from your distributor without a preference rating. The distributor is then permitted to replace such equipment sold from his inventory by means of preference ratings assigned to him on his PD-1X which he files with the Distributors' Branch in Washington.

Steel Recovery Corp. Canvasses Stocks of Steel Rendered Idle By WPB Orders

WASHINGTON, D. C.—First step in the War Production Board's steel recovery program, involving the purchase and redistribution of millions of tons of iron and steel products, was taken Oct. 7 with the mailing by the Steel Recovery Corp. of the first of 200,000 inventory certification forms to known and presumed holders of steel stocks rendered idle or excessive as the result of WPB orders and regulations.

Much of the iron and steel that soon will be directed into essential war production is available as the result of the series of orders, issued during the past few months, curtailing or eliminating use of these materials in the manufacture of hundreds of articles of everyday use.

The report forms now being mailed are simple one-page sheets on which recipients will indicate whether they hold steel inventories and, if so, the types of iron and steel of which they consist. Following receipt of this information, WPB will mail detailed questionnaire forms to cover each type reported, together with schedules of prices to be paid by the government for material needed for the war effort.

The forms now being mailed must be completed and returned to WPB, c/o Steel Recovery Corp., 5835 Baum Blvd., Pittsburgh, Penn., not later than five days after their receipt by the firms to which they are addressed.

Any stocks of the following are to be reported: Non-assembled carbon steel structural shapes, unfabricated and fabricated (including angles of all sizes and sheet piling); carbon steel ingots, billets, blooms, slabs; carbon steel forgings; carbon steel bars and non-assembled products fabricated therefrom; carbon steel wire and non-assembled products fabricated therefrom; carbon steel plates and non-assembled products fabricated therefrom; carbon steel sheet and strip and non-assembled products fabricated therefrom; carbon steel pipe and tubing and non-assembled products fabricated therefrom; carbon steel castings; alloy steel (other than castings) and non-assembled products fabricated therefrom; stainless steel (other than castings) and non-assembled products fabricated therefrom; alloy steel castings (including stainless steel castings); tool steel (high speed, alloy or carbon) in any form other than finished tools, dies and gauges; iron castings; and, wrought iron.

Officials of WPB's Materials Redistribution Branch emphasized the immediate need of steel in war industries, and pointed out that owners are permitted by Priorities Regulation No. 13 to sell directly to qualified users. They urged that those holding needed materials in idle or excessive inventories institute an immediate and intensive hunt for such customers.

In cases of direct sale, the owner receives the going price for his property and war industry benefits by speedy delivery of material which can be used in its present form. In this connection, it was pointed out that while government prices will be considerably above scrap prices, they will not equal the value of fabricated material, if the material must be remelted before it can take its place in the war effort. Scrap metal, as such, will not be purchased by the government and should be disposed of through authorized dealers.

As an aid to direct transfers, the Steel Recovery Corp. will endeavor, wherever practicable, to bring together owner and potential buyer.

Auto Supplies Distributor Loses Priority Assistance

DALLAS, Tex.—Oak Cliff Parts Co., distributor of automotive supplies, owned and operated here by J. R. Terry, is denied all priority assistance and allocation of scarce materials for a period of three months by the terms of Suspension Order S-106.

Preference Ratings Are Assigned for Radio Communication Repairs By P-133

WASHINGTON, D. C. — Assignment of preference ratings to facilitate the acquisition of equipment and supplies for the maintenance and repair of radio communication and commercial sound-recording facilities is provided in Preference Rating Order P-133, issued recently by the War Production Board.

The order may not be used for any expansion, improvement or change of design of equipment. It covers only materials needed for maintenance and repair and assigns the preference rating A-1-j to all operators of radio communication facilities, including broadcasting, police, direction-finding and aviation facilities, as well as all commercial sound-recording studios. The rating, however, is assigned only after the operator has complied with nine conditions stipulated in the order.

These include:

The rating may not be used to replace in inventory more than one spare tube for each active tube socket.

The rating may not be used to replace in inventory any spare parts except those subject to frequent failure, deterioration, or other exhaustion and those which are so special that failure would inevitably result in long delay in resumption of essential operations.

The rating may not be used in any case to increase the value of an operator's inventory of repair parts, other than tubes, above the value of such inventory as of today.

The rating may not be used to replace in inventory a new part if the defective part can be repaired with a smaller consumption of raw material.

The tube which has been replaced from operator's inventory or for which replacement is required must be operated to failure.

The operator must return to the manufacturer any power tube rated as 25 watts or more which has failed, unless the tube is to be repaired.

Equipment which has failed must have operated within the ratings specified by the manufacturer.

The rating must not be used to build up inventory of operating supplies other than tubes, in excess of requirements for a 3-month period.

The operator must be actively engaged in one of the activities listed on Schedule A, attached to the order, or must receive specific authorization for his installation from the Director General for Operations of WPB.

Schedule A lists three categories: Radio communication, including broadcasting; sound recording for commercial purposes, and radio direction-finding.

Preference ratings for maintenance and repair of radio communication equipment formerly were assigned by P-129, which expired Sept. 30. The new order replaces this one, and extends the field somewhat, since P-129 was primarily designed to cover maintenance of telephone equipment.

Public Utilities' Use Of Copper & Steel Reduced 40%

WASHINGTON, D. C. — Use of scarce metals such as copper and steel by public utilities was brought in tow Oct. 10 when the War Production Board amended Order P-46.

About 40% reduction from corresponding 1940 figures was made in the amount of materials that companies could use for upkeep and repair of transmission and distribution systems during the last quarter of 1942, and in the amount of material which they can stock at one time.

By a new provision, the order now requires electric utility companies to buy at least 75% of their wire, cable, and bus bar from stocks of other utilities instead of manufacturers, while gas and water utilities are asked to get at least 40% of similar supplies from other gas and water companies.

Two points specifically brought out in the order were:

1. That "inventory of a utility" does not include material which a company obtained for a construction rated as a war project.

2. That public sanitation utilities shall now send all communications to the Bureau of Government Requirements of the WPB (to which body such companies were recently assigned) but shall remain subject to Order P-46 (given out by the Power Branch) until the Bureau of Governmental Requirements issues its own ruling.

Service "GENUINE DETROIT" Flashes

VOLUME 6 DETROIT, MICH.

Published in the Interest of Equipment Conservation through More Effective Servicing

Feeler Bulb in Wrong Location—Expansion Valve Leak—Evaporator Too Small

FEELER BULB IN WRONG LOCATION. Bulb should be clamped to suction line at end of coil and must be unaffected by room temperature. Use sufficient drier tubing between bulb and outside air to prevent heat from flowing into the bulb and forcing the valve open during the shut-down period.

Where several coils connect into a header, the connections between bulbs and header must be long enough to prevent one coil from affecting the others.

Where an air current flows over the bulb it should be shielded by wrapping with sponge rubber.

Trouble of this nature often shows up with a change in the outside temperature. An improperly placed feeler bulb may get by unnoticed during mild weather and then cause a flood back during hot weather. Also, the job may be satisfactory during hot weather and an improperly located bulb cause starving of the coil during mild weather.

EXPANSION VALVE LEAK. The expansion valve should close during the shut-down period. A leaking valve will cause the evaporator to fill up during the off-cycle and flood over at the start of the on-cycle.

Detection:

After checking bulb location, adjustment, and possibility of freezing, remove the valve and have it checked for tight shut-off.

EVAPORATOR TOO SMALL. When evaporator is too small or air flow over evaporator is insufficient, it causes low suction pressure, insufficient refrigeration, long running time and excessive frost.

Detection:

A. Make sure that evaporator is completely refrigerated.

B. Check air flow for obstruction.

C. Check pressure control for proper cutout point.

D. Check load against manufacturer's rating for evaporator.

A complete Service Analyzer, giving many helpful hints, will be sent upon request.

SYMPTOMS					PROBABLE CAUSE
Condition of Job	Evaporator Condition	Running Time	Suction Pressure	Suction Line	
Normal or Cold	Flooded	Too Long	Normal or High	Flooded	Feeler Bulb in poor contact, or in wrong location
Normal or Cold	Flooded	Too Long	Normal or High	Flooded	Expansion Valve Leaks
Warm	Cold	Short Cycle	Low	Normal or Cold	Evaporator too small or air flow over evaporator obstructed

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Commercial Dealer's Fight for Survival Aided by Government Business

Complete Service Setup Also Aids Ray Winther in Operating Profitably

Editor's note—This is the first of two articles describing the operating methods and history of a one-man commercial refrigeration sales and service firm which refused to be put out of business by shortages of equipment and parts. Coming at a time when many firms in the trade are counting the days until they close their doors, it provides concrete proof of the fact that with ingenuity and persistence, the small business can find an important place for itself in today's all-out war effort.

Halfway up a narrow lane bordering San Francisco's downtown section there's a small and signless white building which people in the refrigeration business around town have dubbed "Ray Winther's Junk Shop."

In some respects, the name is no misnomer. Passing through the bare frame door opening from the street to the pint-sized "display" room of the Ray Winther Co., you are confronted with an amazing conglomeration of aged refrigeration equipment packed from wall to wall and from floor to ceiling. Entirely overlooking the occasional new fixture or condensing unit hiding behind the ancient relics, you wonder if perhaps you have not come across the main exhibit in a museum of unnatural history rather than the stock-in-trade of a commercial refrigeration distributor who's r e p u t a t i o n has spread a third of the way across the continent.

If you throw caution to the winds and succeed in wending your way through the confused maze of antique display cases, past battered hulks of rusty compressors shamelessly displaying names that died a decade ago, over packing crates bulging with dusty coils, and around the ghosts of once-fine motors to the cubicle beyond that is Ray Winther's inner sanctum, you'll be told with proud affirmation that this is indeed a junk shop.

"Why sure that stuff is junk," Ray Winther will grin from behind his littered desk. "And today, every bit of it is just as good as gold."

"Actually," he'll explain in a confidential tone," that 'junk' is all perfectly good equipment. Every bit of it. All it needs is a little attention, which we'll give it. Then we'll install it where it's needed most, keep it running for our customers until the war is over, and then make a profit replacing it with new equipment."

In so many words does Ray Winther summarize the latest phase of a one-man business operation which, for sheer kaleidoscopic action, has probably never been surpassed in the commercial refrigeration field.

Just two years ago, Winther started his distributorship with the help of a wife who knew how to keep books, a little capital, and an unlimited reserve of California ingenuity. In the time since then, he has:

(1). Like hundreds of other one-man sales firms, seen his substantial unit and fixture sales business threatened by shortages of equipment. Instead of making plans to fold up for the duration, however, Winther then:

(2). Converted his operation to a combination service, used equipment and woodworking business, and simultaneously:

(3). Built a brand new and profitable market for his regular lines among government buying agencies in the San Francisco area.

Further along in this article, you will find, the details of the various steps Winther took in achieving this transition, the story of how he went about obtaining government business, how he put ingenuity to work in building and maintaining a profitable wartime service business against heavy odds, how he has gotten around shortages of parts and materials, and how he has maintained a steady and moneymaking sales business on used equipment and wood products with his regular customers.

The story of how Winther has kept his business going—and growing—at a time when many other small commercial refrigeration sales and service companies have counted the days until lack of equipment forced them out of business provides interesting reading. The details of his operation, discussed in the following paragraphs for the first time, may offer a suggestion for a solution to others in similar businesses who are wondering how to solve today's tough problem of staying in business until the war is over.

PREWAR BEGINNINGS

The saga starts at Stanford University where, not many years ago, pudgy blue-eyed Ray Winther first found that he could mix ingenuity with his affable and deceptively easy-going disposition to produce a terrifically potent sales weapon. As business manager of the school's comic weekly during his senior year, he surprised everyone on the campus, including himself, by pyramiding an all time high of $1,700 in commissions on sales atop his modest $60 monthly salary. The secret, he blandly admits, was in his also being manager of the Senior Ball, charged with the hiring of the orchestra, caterer and florist for the University's big social event of the year. Advertising and auditions alike, Winther found, came easily from hopeful vendors in a hundred mile radius.

The story continues with a Horatio Alger period when, in two years, Winther rose from stock room boy to buyer for the Western States Grocery Co., operating the important Safeway chain of grocery stores. While considerably removed from the refrigeration field, it was this period, Winther asserts, that taught him most about selling to the store field.

Anxious to put his ideas to work, Winther quit the Safeway job and an assured future to join James Scatena in the Colvin Templeton operation at San Francisco. Early foregoing a straight salary in favor of a less-sure commission, Winther soon became the star salesman for the young firm, which manufactured beer coolers and distributed commercial refrigeration equipment.

Then, on May 17, 1940 — which he'll remind you is his ancestral Norway's Independence Day — Winther went into business on his own, becoming a Kelvinator commercial refrigeration distributor. Soon after, he added the franchise on Koch commercial fixtures, and the Ray Winther Co. opened for business in a store on San Francisco's 7th St. The personnel of the firm consisted of Winther and his wife.

PEACETIME SALES METHODS

Having hired a woman to care for the family, Mrs. Winther took over at the store and the one-man sales force set out in search of business. Combining an interest in the success of the venture with an ability to keep prospects in the store through engaging them in long and involved conversations pending her husband's return, Mrs. Winther proved a major factor in helping the firm win a strong third position in the Koch national sales contest held only a few months after the Winther organization got under way.

Winther's quick success in the commercial refrigeration sales business, he explains, stems largely from the experience he had obtained in the Safeway chain organization. There he had found that the purchase of new refrigeration equipment usually accompanied either the furnishing of a new store or the complete redesigning of an old one. Running his own business, he found that merchants disliked buying store equipment piecemeal, often delayed the rehabilitation of their shops to avoid the fuss and bother of purchasing the many different items one by one.

Taking advantage of this situation, Winther soon inaugurated a system of submitting complete store layouts to his prospects. Specializing in supermarket installations and going beyond mere detailed floor plan drawings, Winther produced complete three dimensional sketches. The plan worked. In fact, it worked so well that Winther quickly found his firm being called on to bid on such items as counters, shelves, and many other items not sold by the company and requiring custom built equipment.

Owns 'Junk Shop'

RAY WINTHER

Rather than refuse this profitable "plus" business, Winther moved his firm in January of 1941 to new and larger quarters, and installed a complete woodworking shop. Here, the firm inaugurated a new policy of bidding on all equipment which could be produced in the shop, and as a means of getting the business, enlarged its presentations to customers from mere sketches to complete architect's drawings, showing every detail of the proposed installation, including plumbing and electrical lines and outlets for the whole store. Again, the plan worked. In a d d i t i o n to selling refrigeration equipment, Winther became a "supermarket specialist" and acted as purchasing agent and adviser to his customers on all products bought for the store.

Business flourished. With his policy of specializing on store jobs and limiting his sales to units of less than two horsepower, Winther saw his sales curve climb steadily during all of 1941.

SELLING THE GOVERNMENT

Realizing that war demands might cut into his civilian market, Winther established a plan, before 1941 ended, to hedge against possible catastrophy by branching out into service work, by soliciting straight custom woodworking jobs, and by going after government business he could handle.

Selecting six of the 20 or more government agencies buying refrigeration equipment in the San Francisco area, Winther launched an intensive "prospect cultivation" program with these agencies. More than six, he reasoned, would present too difficult a problem of intensive sales coverage, and, if he landed much business, too tough a job of delivery and installation. Less than six, he felt, would offer too slim a group for the laws of chance to insure his getting some business.

Calling on the six selected agencies regularly, week after week, Winther eventually became known as the "refrigeration man." Sticking to the assertion that he would bid on "anything in refrigeration," he was given a chance to figure on the equipment being bought by these agencies and, proving that the small operator is not shut out of the government's purchasing methods, shortly began to get orders. First it was for a beverage cooler for a Post Canteen, then for coolers for Post Exchanges, later, as his reputation spread and the equipment he had sold proved satisfactory, for shelving, for walk-in coolers and the other items needed in camps and aboard ships.

"The essence of the problem in selling the government," Winther explains, "was in showing up at the purchasing offices frequently, in obtaining a clear understanding of their purchasing methods, and in being able to talk intelligently about priorities, regulations, limitations orders and other factors making this kind of business different from normal civilian business.

"By actually studying and memorizing, instead of just scanning, the Priorities Orders Summary issued by Koch, and the information appearing in AIR CONDITIONING & REFRIGERATION NEWS, I got a real jump on my competitors. Government buyers and later, export buyers who heard about my company, knew what I was talking about, even if my firm was just a hole in the wall."

Today, 50% of Winther's sales volume is directly to government agencies, largely r e p l a c i n g new equipment civilian b u s i n e s s lost through war restrictions.

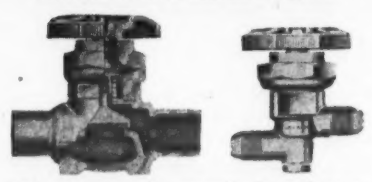
(To be continued)

Superior PRODUCTS ★ ★ ★
★ ★ ★ FOR YOUR Defense JOBS

Increased refrigerated space for the accelerated production of perishable foods places a heavy responsibility upon the refrigeration industry. Shortage of metals condemns waste and inefficiency. Do your part to conserve materials. Design to produce more refrigeration per watt hour. Select equipment which requires a minimum of service. Specify SUPERIOR — the quality buy-word of the industry.

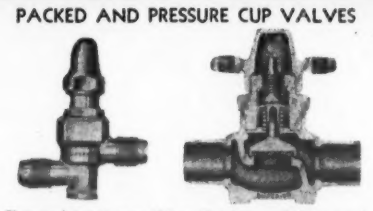
CUT

DIAPHRAGM PACKLESS VALVES



Entire internal assembly removable for soldering or inspection. Equipped with famous pressure cup below diaphragm. Two and three way. Flare sizes ¼" to ¾"; Sweat sizes ¼" to ⅞".

PACKED AND PRESSURE CUP VALVES

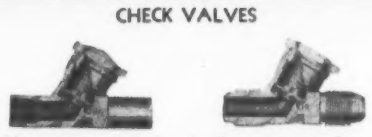


Flare and sweat sizes ¼" to ⅜" (two and three way) have hex seal cap. Sweat sizes ¼" to 2⅛" (globe) have wing nut seal cap. Internal assembly (all sizes) removable for sweating to valve body.

★ Refrigeration is Vitally Essential to Our National Defense Efforts ★

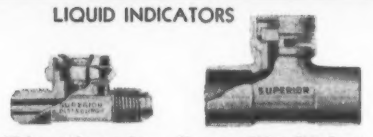
OUT AND SAVE

CHECK VALVES



Very sensitive springs. Less than 5 ounces pressure drop. Positively will not chatter or hum. All internal parts easily removable for sweating or inspection. Sizes ¼" to ¾" Flare; ¼" to ⅞" Sweat.

LIQUID INDICATORS



With or without seal cap. Flare sizes ¼" to ⅝"; Sweat sizes ¼" to 1⅜". On ½" Sweat to 1⅜" entire upper assembly may be removed as a unit to facilitate soldering of refrigerant lines to connections.

★ Refrigeration-Food Preservation and National Defense are Synonomous ★

FOR FUTURE

DEHYDRATORS

Silica-Gel or Activated Alumina. Refillable and non-refillable. ¼" to ⅝"; ¼ to 5 H.P.; ½ to 60 cubic inches.

MANIFOLDS

With packless or seal cap valves. Two to six valves; ¼" to 2⅛" valves, with or without end fittings. Sweat or flare.

FILTERS

Highly efficient sack type filter. Sizes ¼" SAE to ⅝" SAE. One to five horsepower.

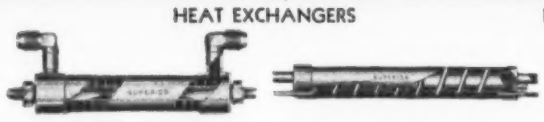
★ Don't take chances with the Nation's Health—do the best job possible ★

REFERENCE

FITTINGS

Unions, adapters, elbows, tees, crosses, caps, etc. ⅛" through 1".

HEAT EXCHANGERS



Unique design gives highest capacity per unit size. Sweat or flare connections. 4200 to 9725 BTU per hour.

Combination Heat Exchanger and Accumulator. From one to ten tons. Especially recommended for low temperature installations.

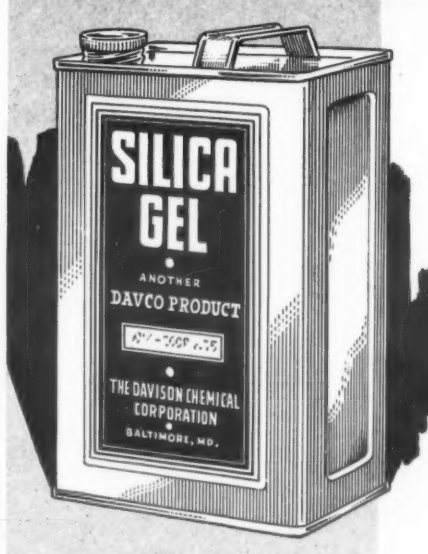
FLARE NUTS

Brass and steel. Long and frost proof. Forged and bar stock.

★ For complete details—see your Jobber or write for catalog ★

SUPERIOR VALVE & FITTINGS CO.
★ PITTSBURGH ★ PENNSYLVANIA ★

SILICA GEL



IS DEFEATING MOISTURE ON Two Fronts

GREATER CAPACITY
ACTS INSTANTLY
REMOVES ACIDS
DOES NOT CAKE OR POWDER

ON THE WAR FRONT

Guarding implements and materiel of war against corrosion, rust and mildew caused by moisture during shipment to far-flung battle lines—so that our fighting forces will not be delayed putting these weapons to effective use.

ON THE HOME FRONT

Guarding America's refrigerators against damage caused by moisture in the refrigerant—improving efficiency and adding years of life to existing equipment—a Conservation job that permits more raw material to flow into ships, planes, tanks and guns.

THE DAVISON CHEMICAL CORP.
Silica Gel Dept.
BALTIMORE, MARYLAND

Ration-Banking Plan Ready for Test in Albany-Schenectady-Troy Area; May Be Used on Nationwide Basis

ALBANY, N. Y.—Final plans for institution of ration-banking in the Albany - Schnectady - Troy area of New York State are being worked out in cooperation with a committee of local bankers so that a start may be made in late October or early November, the Office of Price Administration announced today.

Cooperation in the system for handling ration paper and credits through banks on a "checking account" basis instead of through heavily over-loaded local War Price and Rationing Boards, has been voted unanimously by representatives of 18 banks in the area. They met in the same week with Price Administrator Leon Henderson's announcement of the plan on Sept. 24.

Because the system as worked out and perfected in the New York capital district will be used later on a national scale, some elements, it was stated, will be handled in more than one way in the trial period. One trial question is the method to be used for counting stamps and coupons. Whether this can be done most efficiently by tellers in the cooperating banks where merchants will keep their ration accounts, or by some other agency remains to be determined. It is probable that the work will be assigned to the tellers in all banks at the start of the trial period, with the possibility that some other agency will be tried for purpose of comparison in one or more localities later in the same period.

Another question to be determined is what retailers should be included in the system as finally set up. The trial operation of ration-banking will cover only gasoline and sugar rationing. The gasoline retailers will not be included, but, in order to test the question, sugar retailers will be.

The main structure of the ration-banking plan has been worked out by the OPA in cooperation with the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency, as well as with William R. White, New York State banking superintendent, and local bankers. The Albany-Schnectady-Troy area was chosen for its introduction chiefly because it contains a typical variety of business enterprises and population, and is an integrated distribution territory, removed from other large centers. It is also within the current gasoline rationing zone. Six cities and a dozen towns are included.

Overburdening of local rationing boards throughout the United States through their handling hundreds of millions of coupons and stamps, first brought the need for a better system to the attention of the OPA. The work interfered with execution of important administrative duties by these volunteer boards, and could not, besides, be done with the requisite degree of promptness and accuracy. The latter was due to the lack of personnel, space, and the right kind of equipment.

All these objections can be overcome if the banks and clearing houses are brought into the picture, OPA believes. These have the equipment and trained personnel, and it is possible for them to handle ration-credit transactions exactly as checking accounts are handled. In addition it will be possible for OPA to have a much closer check on transactions through the new system, so that planning and enforcement of rationing can be carried out with maximum effectiveness.

Simplicity of an operation that is handled exactly as a checking account, is expected by the OPA also to appeal to the business man who must operate under rationing. Virtually the only difference between the two procedures is that ration banking accounts are kept in pounds and gallons, instead of dollars and cents. The accounting, clearing of transactions, and preparation of statements that will be provided for the depositor and for the OPA, are the same.

The "checks" that are used to transfer ration credits from buyer to seller are called "transfer vouchers, and are evidence, of course, only of the right to buy the rationed commodity in the amount given, and do not pay for it.

Besides simplicity of the operation, the convenience to the business man in being able to take or mail his deposits of "ration currency" to the bank, instead of standing in line for many minutes to exchange them for purchase certificates at local boards, was pointed out by Price Administrator Henderson in announcing the new system.

At the start those who will be included in the ration-banking program will consist of all who handle sugar and gasoline, except individual consumers and gasoline retailers. This will take in, besides traders, such buyers as hotels and restaurants, hospitals, and other such institutions, and factories such as candy factories which buy and use sugar in manufacturing their products.

The territory to be covered includes Albany, Schnectady, Troy, Cohoes, Rensselaer, Watervliet, and Mechanicville, and the following towns: Glenville, Rotterdam, Niskayuna, Guilderland, Colonie, Waterford, Schaghticoke, Brunswick, North Greenbush, East Greenbush, and Bethlehem.

One point that the OPA has made plain is that the plan for facilitating use of ration credit through banks does not change the basic regulations and orders governing the rationing system itself. Local boards, for example, will continue to exercise all the administrative functions assigned to them at present, but will be relieved of the bookkeeping and accounting involved in handling ration paper after it has been used and returned for credit and exchange. In fact, it is expected by OPA that the service of the local boards will increase in importance as well as efficiency with the further use of rationing.

British Speaker Believes American Industry Will Prefer Government-Established Concentration

NEW YORK CITY—American industry will probably echo Great Britain's choice to have the government, rather than individual industries by voluntary methods, set up a program for concentrating production, predicted Chaim Raphael of the British Information Service at a American Marketing Assn. meeting.

England's preference for the government plan, he revealed, was brought out through experience with nucleus plants established there as part of the concentration-of-production program.

These concentration programs in Great Britain, Mr. Raphael explained, were adopted to organize existing supplies, labor, and factory space, rather than to limit production, because by the time they were initiated, output of non-military goods had already been sharply curtailed by limitation orders.

According to Mr. Raphael, the original aim sought by the program was to allow nucleus plants to turn out the same specialized goods made by closing concerns and sell them at cost to these companies, which in turn, could utilize their existing sales and distribution systems to move the products.

When this plan proved impractical, four other methods of compensating closed companies were adopted, he said. They were:

1. Pooling, so that all companies shared the profits of those left operating.

2. Transfer of quotas, whereby nucleus plants paid specific sums to closed companies for the right to use their materials quotas for the duration.

3. Compensation by a levy laid on products of the nucleus concerns and paid to closed companies.

4. Mergers, either by permanent amalgamation, or by closed companies selling out to nucleus plants.

At first, Mr. Raphael said, little progress was made in the development of utility products because of inability to obtain new machinery needed to produce the items, and numerous other difficulties. However, he pointed out, the trend is now definitely in the direction of utility production.

WPB Conservation Division Shifts Organization

WASHINGTON, D. C.—Several organizational changes in the Conservation division of the War Production Board have been announced by Lessing J. Rosenwald, director.

An additional deputy director has been appointed to assist Deputy Director Paul Cabot, because of heavier duties placed on him by rapid expansion of salvage operations. Howard Coonley, chief of Simplification branch, was named to the position. Robert B. Shepard, deputy chief, replaces Mr. Coonley as Chief of Simplification branch.

R. K. White, chief of the Tin Salvage Unit, was appointed chief of the General Salvage section, succeeding Herbert Gutterson, who became executive advisor on field operations.

Mr. Coonley was appointed to the WPB in March, 1942, to coordinate and implement the simplification and standardization program. He was formerly president of the National Association of Manufacturers and of the American Standards association,

Mr. White was appointed to the WPB in September. He was formerly assistant general sales manager of the Pontiac Motor Co., general advertising manager of the Chevrolet Motor Co., and a member of the executive staff of the Campbell-Ewald Co., Detroit agency.

Mr. Shepard, at the time of his appointment to the WPB, was chief electrical engineer for the Underwriters' Laboratories, Inc.

Canadians to Allow U. S. Businessmen More Gasoline

WASHINGTON, D. C.—Canadian regulations governing the supply of gasoline for non-residents have been modified to allow certain American business men a greater quantity of gasoline in Canada than that available for motorists who visit Canada for pleasure, the Office of Price Administration reported in Washington.

Beginning Oct. 1, United States business men who must visit Canada on business connected with the war effort, or to serve firms who are already their customers, were able to get additional gasoline upon proof of necessity. Business men may get the necessary application forms by writing to the Oil Controller for Canada at Toronto, or on application to Canadian Trade Commissioners in the United States.

Under the new Canadian regulations drawn up by the Canadian authorities working with OPA, business men who hold A books under the U. S. rationing plan will not be given a higher than Category AA gasoline license and ration coupon book in Canada. This would permit about 1,200 miles of driving between Oct. 1 and the end of the Canadian rationing year, March 31, 1943. American business men driving with B books will be given a Canadian category A gasoline license and ration coupon book cut to fit their proved needs. Those holding a C or S book in the United States will receive a Canadian Category A book.

Much Copper Is Saved by Use of Silver Conductors

WASHINGTON, D. C.—Twenty-four million pounds of copper have been saved in the last few months by substituting silver for copper in electrical conductors, declares WPB's Conservation and Substitution Branch, through Harvey A. Anderson, chief.

This saving represents enough copper to make 95,000,000 aircraft machine gun bullets, plus 600,000 anti-tank shells, plus 1,500,000 anti-aircraft shells.

Plans for substitution of silver for copper were developed before Pearl Harbor and many projects using such substitution have been inaugurated and have been accomplished through the action of the Conservation and Substitution Branch.

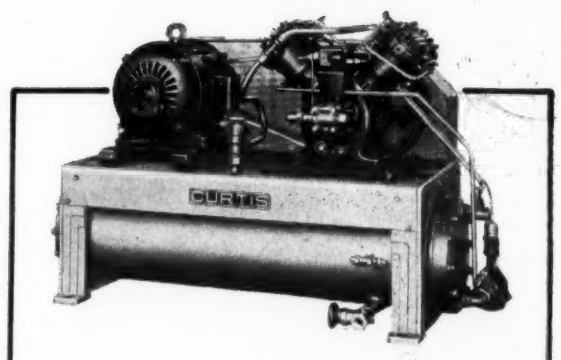
Copper is being replaced by silver in plants where electrical connections are a significant feature of production. Bus bars, which are large slabs of metal used to conduct up to 3,000 amperes of current, windings for transformers and similar electrical appliances are being made now with silver.

A minimum of 34,000 tons of silver has been allotted to the Defense Plant Corp. by the United States Treasury and must be returned after the war. The Defense Plant Corp. is lending this silver to those plants that must have large quantities for operation, that can conveniently protect the silver and that are in operation almost constantly.

How to Prolong the Life of CURTIS REFRIGERATING EQUIPMENT

Never before has maintenance of existing equipment been as important as it is today because of the great need for the conservation of material and power.

Here are some tips on how you can further extend the life of Curtis equipment:



Curtis Shell and Tube Type Condensing Unit

Motor Lubrication: Oil motor bearings with a good grade of light oil (viscosity 150-200) SAE-20.

Compressor Lubrication: Maintain proper oil level. If necessary to add oil, do not add all at one time. It should be added in small quantities at intervals. Use only CURTIS oil.

Belts: Keep oil off belts and make certain that pulleys are in alignment and that belt is adjusted to proper tension.

Refrigerant Requirements: Use only refrigerant specified on unit nameplate. Do not overcharge.

Electrical Specifications: Be certain that motor is connected to correct current. Check nameplate on motor and controls. For overload protection use line fuses of proper rating—three times the full load amperage rating of motor as shown on motor nameplate.

Location: Air-cooled units should have free circulation of cool air. Water-cooled units should be installed where they will not be subject to freezing temperatures.

User Instructions: Instruct the user in the care and operation of this unit—how to oil motor and replace fuses. Have your name, address, day and night telephone numbers posted near the unit.

Announcing

New Policy on Repair Parts

In line with conservation of vital material and at the request of the War Production Board, the following policy is announced:

1 Before an order can be filled for a replacement part, the old part must be returned to the factory, transportation charges prepaid.

2 If equipment is in the warranty period and requires replacement, return the old part with complete information as to model and serial number, and reason for replacement. A new or reworked part will be shipped, no charge, if part returned is defective.

3 If equipment is out of the guarantee period, make every effort to have it repaired locally. If this is not possible, return part to the factory with order. Replacement will be shipped as soon as possible.

4 Furnish priority rating and allocation classification symbol with ALL orders. Include instructions for shipping.

The cooperation of dealers will help assure delivery of repair parts.

CURTIS REFRIGERATION AIR CONDITIONING AND COMMERCIAL

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1950 Kienlen Avenue, St. Louis, Missouri

★ ★ CONSERVE METAL, BUY WAR BONDS AND STAMPS ★ ★

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge, $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

POSITIONS AVAILABLE

WANTED: Several refrigeration service engineers for key positions with progressive household refrigerator manufacturer. Openings for fluid and office work. Must be familiar with all phases of service. Organizing and executive ability essential. Write fully, giving experience, education, age, salary expected, marital status, number of children. Give full details in first letter. Box 1415, Air Conditioning & Refrigeration News.

EXPERIENCED refrigeration supply man. COLEMAN ELECTRIC SUPPLY CO., INC., 354 36th St., Brooklyn, N. Y.

DETROIT FACTORY branch of national manufacturer needs experienced man age 45-50 to do commercial refrigeration and oil burner service in Detroit area. Must have some knowledge of electricity. Permanent connection for right man. Reply Refrigeration News, Box 1416, giving full details.

WANTED: Refrigeration Engineer for application and general engineering by manufacturer of low-side equipment. State experience, technical training, and salary expected. Box 1417, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED: Used Commercial Refrigeration and Air Conditioning. THE BIMEL CO., 305 Walnut St., Cincinnati, Ohio.

WANTED: Will pay top price for good used air conditioning coil; 10-15 tons capacity; 12 to 16 sq. ft. face area; preferably 6 row. REFRIGERATION PRODUCTS CO., 49 Central Ave., Cincinnati, Ohio.

WILL BUY—New Electric water heaters; new electric ranges; new 12 cu. ft. or larger electric refrigerators; new electric water coolers; new radios. In answering give make, model, size, price and terms. Write OCHILTREE ELECTRIC CO., 21 Penn Ave., Pittsburgh, Penn. or phone Atlantic 1900.

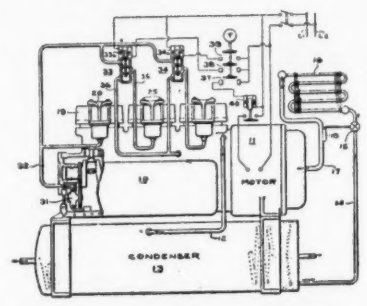
Seamless PENN BRASS and COPPER TUBING
PENN BRASS & COPPER CO. ERIE, PENNA.

Doing Double Duty
● Refrigeration valves, fittings and accessories will, in all probability, be doing double duty for many months to come. In the meantime, it is of the utmost importance that those products which you can procure are dependable and will function for the "long haul".
If you are in difficulties, write us. We will do our very utmost to help.
Mueller Brass Co. products have a reputation for quality and long life.
MUELLER BRASS CO.
PORT HURON, MICH.

PATENTS

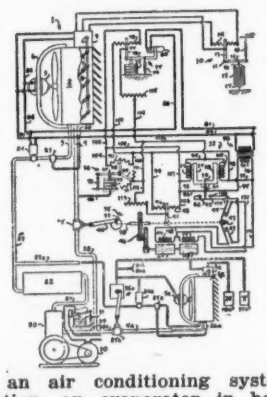
Weeks of Sept. 22 & 29

2,296,304. REFRIGERATING APPARATUS. Edward R. Wolfert, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 23, 1938, Serial No. 203,796. 20 Claims. (Cl. 62—4).



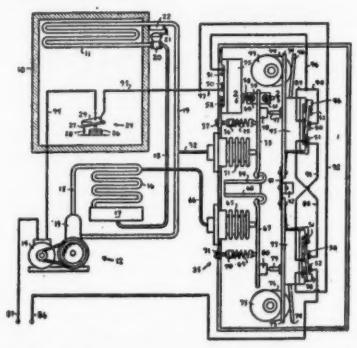
1. In apparatus for air cooling an enclosure, the combination of an evaporator, a multi-cylinder compressor, and a condenser connected in a refrigerant circuit, means for conveying air over said evaporator and into the enclosure, and means for starting and stopping the compressor and loading and unloading one or more cylinders of the compressor automatically in response to the temperature of the air in the enclosure.

2,296,530. AIR CONDITIONING SYSTEM. William L. McGrath, St. Paul, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application July 16, 1937, Serial No. 154,028. 9 Claims. (Cl. 61—6).



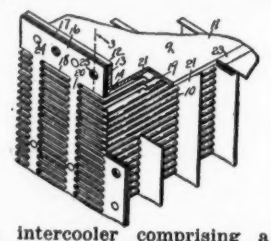
1. In an air conditioning system, in combination, an evaporator in heat exchange relationship with air to be conditioned, expansion valve means of the superheat responsive type controling the admission of refrigerant to the evaporator, means for varying the flow of air in heat exchange relationship with said evaporator, humidity responsive means for controlling said air flow varying means, means for withdrawing gaseous refrigerant from said evaporator, a controller for varying the rate of withdrawal of gaseous refrigerant from said evaporator, means responsive to the condition of the refrigerant in said evaporator for controlling said controller in a manner to maintain such condition constant, and temperature responsive means for adjusting said condition responsive means to vary the evaporator temperature maintained in accordance with changes in temperature.

2,296,534. REFRIGERATION CONTROL SYSTEM. Alwin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Jan. 25, 1940, Serial No. 315,504. 11 Claims. (Cl. 62—4).



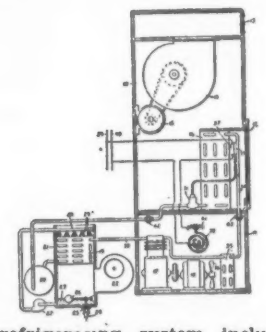
1. In a refrigerating apparatus having an evaporator for controlling the condition of a medium, a compressor for circulating refrigerant through the evaporator and an electric motor for operating the compressor, in combination therewith, a first switch, means responsive to a condition of the medium being controlled indicative of a need for compressor operation for opening and closing the first switch, a second switch, means responsive to suction pressure for closing the second switch when the suction pressure increases to a predetermined high value, a third switch, means responsive to suction pressure for opening the third switch when the suction pressure decreases to a predetermined low value, a fourth switch, means operative as an incident to operation of the compressor for closing the fourth switch, a starting load circuit through the electric compressor motor including the first, second and third switches and the electric compressor motor in series, and a maintaining load circuit through the electric compressor motor including the first, third and fourth switches and the electric compressor motor in series.

2,296,570. COOLING APPARATUS. Hans P. Peterson, Hartford, Conn., assignor to the Bush Mfg. Co., Hartford, Conn., a corporation of Connecticut. Application Dec. 23, 1940, Serial No. 371,282. 2 Claims. (Cl. 257—236).



2. An intercooler comprising a frame including top and bottom plates having flanges at opposite edges thereof, relatively thin flexible tube sheets connecting the flanges at each end of the top and bottom frame plates, said tube sheets being located at opposite sides of the frame, flat thin walled conducting tubes having flanged ends extending through the tube sheets and connecting the same in end to end fashion, a flexible perforated sheet of rubber for sealing the connection between the tube sheets and conducting tubes, and a thin flexible end plate of substantially the same thickness as the tube sheets for clamping the rubber packing sheet against the flanged ends of the tubes, said tube sheets and end plates being capable of flexure upon expansion and contraction of the conducting tubes whereby said tubes will be prevented from being loosened at the point of sealing engagement with the tube sheets and end plates.

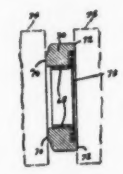
2,296,680. AIR CONDITIONING APPARATUS. David W. McLenegan, Caldwell, N. J., assignor to General Electric Co., a corporation of New York. Application Nov. 29, 1941. Serial No. 421,009. 7 Claims. (Cl. 62—6).



1. A refrigerating system including a compressor and a condenser and an evaporator connected in a closed refrigerant circuit, a closed housing surrounding said compressor, means for circulating air within said housing and over said compressor, means including a refrigerant element arranged in said housing and connected in the refrigerant circuit of said system between said evaporator and said compressor for cooling the air circulated in said housing to remove heat produced by the operation of said compressor, and temperature responsive means arranged to control the admission of refrigerant to said evaporator for maintaining the temperature of the air circulated over said compressor below a predetermined value.

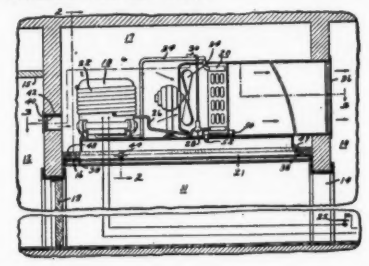
2,296,724. METHOD OF MAKING REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application June 30, 1939, Serial No. 282,225. 1 Claim. (Cl. 29—156).

The method of making a seal ring provided with a gasket which comprises forming a blank ring, rough cutting the



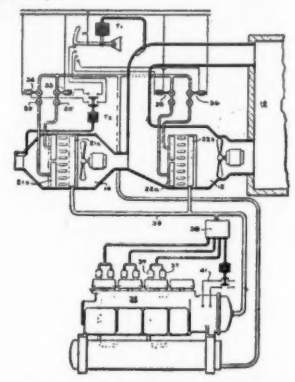
seal face on one side of the ring and a gasket recess flanked by a projection on the other side, hardening the ring, hot vulcanizing a gasket in said gasket recess in said seal ring beneath said projection, grinding said seal face to provide a seal surface while said ring is held by a magnetic chuck through said projection, and lapping said seal face to provide a smooth seal surface.

2,296,725. REFRIGERATING APPARATUS. Eugene E. McEwan, New York, N.Y., assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application March 30, 1939, Serial No. 265,005. 11 Claims. (Cl. 62—140).



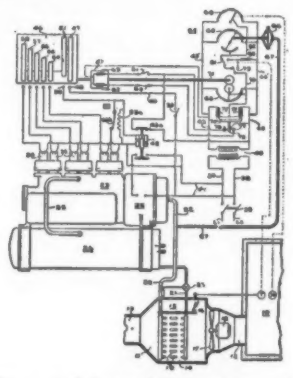
1. In combination with a room or the like, a main supporting panel, a volatile refrigerant evaporator supported on said panel, refrigerant liquefying means for supplying refrigerant to said evaporator supported on said panel, a recess in one wall of said room having an opening slightly larger than said panel, means for supporting said panel substantially centrally of said opening whereby an air passage is formed between said panel and the edges of said opening and whereby said evaporator and liquefying means are concealed from view, and means for circulating air from said room through said air passage into thermal exchange with said evaporator and back into said room.

2,296,741. AIR CONDITIONING APPARATUS. Charles M. Sanders, Jr., Oak Park, Ill., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 2, 1938, Serial No. 217,117. 6 Claims. (Cl. 62—6).



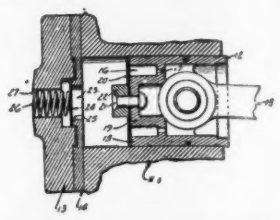
2. In an air conditioning system for an enclosure, the combination of means for effecting flow of a stream of air from the enclosure and a stream of outdoor air mixing the two streams and delivering the mixed air stream to the enclosure, first means for cooling the outdoor air stream before mixing, second means for cooling the mixed air stream, means for successively initiating operation of the first and the second air cooling means automatically in response to successively higher predetermined values of a heat load condition of the enclosure, and means responsive to a predetermined minimum temperature of the outdoor air for terminating operation of the first air cooling means independently of the last-mentioned means.

2,296,822. AIR CONDITIONING APPARATUS. Edward R. Wolfert, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 23, 1938, Serial No. 203,797. 15 Claims. (Cl. 62—4).



1. In a refrigerating system, the combination of a compressor having a plurality of cylinders having pressure-operated suction valves, a condenser, and an evaporator connected in a refrigerant circuit, unloader mechanisms associated with a plurality of said cylinders respectively for loading and unloading the same during operation of the compressor, said unloader mechanisms unloading the cylinders by holding the suction valves in open position, and means for controlling said unloader mechanisms to successively load said cylinders in response to successive increases in pressure in the low pressure side of the refrigerating system and to successively unload said cylinders in the reverse order in response to successive decreases in pressure in said low pressure side to maintain said pressure substantially at a predetermined value.

2,296,883. METHOD OF MAKING INLET VALVES FOR REFRIGERATING COMPRESSORS. Allen Trask, Chicago, Ill., assignor to Mills Novelty Co., Chicago, Ill., a corporation of Illinois. Application May 6, 1937, Serial No. 141,120. 9 Claims. (Cl. 29—157.1).



1. The method of making a thin and flexible disc valve, comprising the following steps: Selecting a sheet of Swedish flapper valve steel; punching a flat blank from said sheet; and then removing a thin stratum of the metal from one side face only of the blank, whereby said blank is caused to assume a normally curved shape.

2,296,997. CONDENSATE DISPOSAL MEANS. Marion P. Knoy, Long Beach, Calif. Application Aug. 3, 1940, Serial No. 350,534. 2 Claims. (Cl. 62—115).

1. In an air-cooling apparatus having a refrigerating cycle including a compressor, a condenser, and an evaporator, the combination therewith of disposal means to vaporize water condensed on the outer surface of the evaporator, said

(Concluded on Page 19, Column 1)

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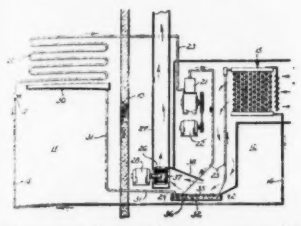
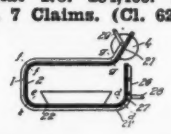
Patents (Cont.)

(Concluded from Page 18, Column 5)



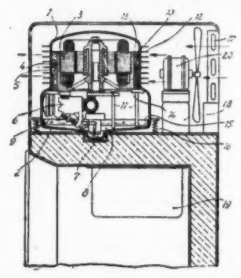
disposal means comprising: walls forming an air course through the apparatus cut off from said evaporator; power means to drive fresh air through said air course; a disposal receptacle to retain a body of water drained from the surface of said evaporator: and a fluid-passage means included in said refrigerating cycle in the hottest zone thereof between the output side of the compressor and the input side of the condenser, said fluid-passage means having an exposed portion in said air course and a portion submerged in said body of water, said condenser being in said air course, said exposed portion of said fluid-passage means being in said air course downstream from said condenser, whereby air flowing through said air course is initially heated by the warm surface of said condenser and is then heated further by the exposed portion of said fluid-passage means to lower the relative humidity of the air before the air reaches the water in the receptacle, said air course being locally restricted in cross section at said receptacle to accelerate the air flow across the surface of said body of water.

2,297,219. EVAPORATOR FOR REFRIGERATING APPARATUS OF THE COMPRESSION TYPE. Rudolf Hintze, Berlin-Charlottenburg, and Peter Plaff, Berlin-Siemensstadt, Germany; vested in the Alien Property Custodian. Application Feb. 3, 1939, Serial No. 254,460. In Germany Feb. 3, 1938. 7 Claims. (Cl. 62—126).



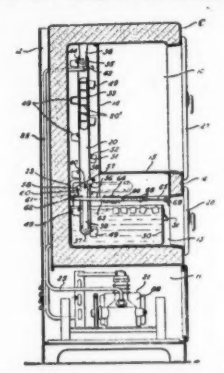
5. In an evaporator structure for compression refrigerators comprising an evaporator conduit system proper and a short supply conduit connected with the lowest portion of said system, a pair of metal sheets sealed face-to-face together and bent so as to have horizontal and vertical wall sections, respectively, forming a storage chamber for deep-cooling purposes, at least one of said sheets having corrugations forming said evaporator conduit system and at least one of said sheets having an indentation forming a collecting header arranged above and communicating with said system, said corrugations forming said conduit system extending consequently over said horizontal and vertical wall sections along a path nowhere extending in a downward direction and including a single sinuous passage forming the only connection between said supply conduit and said header and extending over the horizontal wall section forming the bottom of said chamber.

2,297,220. MOTOR-COMPRESSOR UNIT FOR REFRIGERATORS. Rudolf Hintze, Berlin-Charlottenburg, Germany; vested in the Alien Property Custodian. Application March 20, 1939, Serial No. 262,930. In Germany March 23, 1938. 6 Claims.



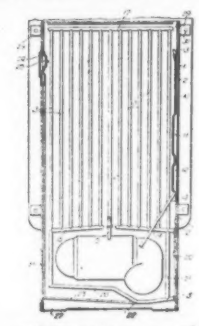
1. In a motor-compressor unit, in particular for a refrigerator, the combination of a compressor, an electromotor operatively connected with said compressor, an hermetically sealed housing containing lubricant and enclosing said motor and said compressor, said housing and said motor being spaced from each other to form an interstice around said motor, noise-damping absorbent material disposed in said interstice substantially filling said interstice around its entire periphery, and means for supplying part of said lubricant to said material.

2,297,371. REFRIGERATION. Arnold D. Siedle, Canton, Ohio, assignor to the Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Nov. 25, 1938, Serial No. 242,209. 26 Claims.



1. Refrigerating apparatus comprising an insulated cabinet, means for producing refrigeration including a cooling unit within said cabinet, means for conveying ice molds in a path of movement in heat transfer relationship with said cooling unit, means for removing ice blocks from said molds and replenishing the same with water to be frozen, a door for said cabinet, and means operated by said door for discontinuing the movement of said ice molds and the operation of said ice block removing and water replenishing means.

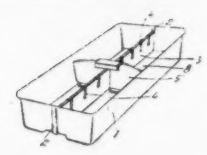
2,297,475. REFRIGERATOR. Rudolf Hintze, Berlin-Charlottenburg, and Anton Engelmann, Berlin-Tegel, Germany; vested in the Alien Property Custodian. Application April 24, 1940, Serial No. 331,392. In Germany April 5, 1939. 10 Claims.



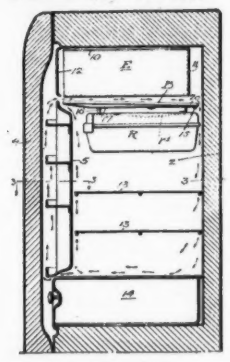
1. In a refrigerator, a rigid vertical frame comprising parallel sheets welded together, liquid cooling channels indented in one of said sheets, and a cooling chamber having its rear wall extending parallel to the upper portion of said frame and supported thereon, the said frame extending downwardly below said chamber and forming the rear supporting legs therefor.

2,297,558. ICE TRAY. Rudolf Hintze, Berlin-Charlottenburg, and Helmut Glombitza, Berlin-Spandau, Germany; vested in the Alien Property Custodian. Application Oct. 20, 1939, Serial No. 300,342. In Germany Oct. 5, 1938. 10 Claims.

1. A device for producing ice cubes comprising a relatively rigid non-deformable container, a relatively rigid longitudinal partition and a plurality of transverse partitions in said container for dividing the interior thereof into individual cells, each said transverse partition being relatively rigid and non-deformable and having a straight central portion and being individually separable from the longitudinal partition and individually removable from the container while the other partitions remain therein, and each said transverse partition having an integrally formed lateral extension at its lower extremity which extends parallel to and normally rests on the bottom of the container, whereby when any transverse partition is raised from the container the ice cubes directly above the extension of such partition are raised also.

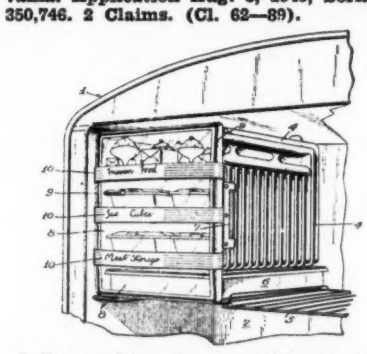


2,297,581. REFRIGERATOR. Frank D. Peltier, Rydal, Pa., assignor, by mesne assignments, to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application July 25, 1940, Serial No. 347,526. 7 Claims. (Cl. 62—89).



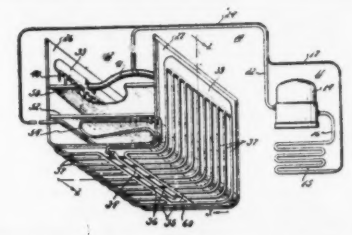
1. A domestic refrigerator comprising a cabinet providing a food storage compartment, a door opening to said compartment, a relatively shallow evaporator within the upper portion of the food storage compartment for cooling the latter, said evaporator having a width and depth substantially equal to the width and depth of said compartment, a baffle member spaced below said evaporator and extending substantially to the side walls of the compartment with its front and rear edges spaced respectively from the door and compartment rear wall, said baffle declining slightly rearwardly within said compartment so that air is directed rearwardly between the evaporator and the baffle and then downwardly along the said compartment rear wall, and an inner shelf-lined door carried by the first-mentioned door having side walls spaced from the food storage compartment side walls to form flues for the upward circulation of air from the bottom of said compartment to the evaporator.

2,297,584. REFRIGERATOR. Theodore W. Rundell, Jenkintown, Pa., assignor, by mesne assignments, to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application Aug. 3, 1940, Serial No. 350,746. 2 Claims. (Cl. 62—89).



1. In a refrigerator comprising a cabinet having a food storage compartment therein with a door at the front of said compartment for access thereto; a refrigerating structure including an evaporator unit disposed within said food storage compartment and having an open front disposed adjacent the inner surface of said door when said door is closed; and a unitary closure member for the front of said evaporator unit composed of non-heat conducting material and arranged to reside closely adjacent the open front of said evaporator unit and between said unit and the inner surface of said closed door, said member completely covering the front of said evaporator unit and providing between said unit and the inner surface of said closed door a non-heat conducting shield operable to minimize the chilling of the inner surface of said closed door by said evaporator unit to thereby prevent the condensation of moisture on said inner surface, said closure member having its peripheral edge portions extended rearwardly parallel to and closely adjacent the outer walls of the evaporator unit for a short distance adjacent the front portions of said walls to substantially seal the inside of the evaporator unit against the circulation of air therethrough from the food storage compartment of the refrigerator.

2,297,633. REFRIGERATING APPARATUS. Lawrence A. Philipp, Detroit, Mich.,



assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Feb. 26, 1940, Serial No. 320,857. 7 Claims. (Cl. 62—126).

1. A refrigerant evaporator comprising a pair of refrigerant distributing manifolds, an inlet refrigerant manifold, refrigerant injecting means adjacent each end of said inlet manifold communicating with the corresponding ends of each of the other two manifolds to conduct refrigerant from the inlet manifold to the distributing manifolds, and means providing refrigerant passages communicating with said distributing manifolds.

REISSUE

22,188. METHOD OF REGULATING AND MAINTAINING HEAT TRANSFER. Henry R. Minor, Dayton, Ohio, assignor, by mesne assignments, to the Liquid Carbonic Corp., Chicago, Ill., a corporation of Delaware. No drawing. Original No. 1,808,429, dated June 2, 1931, Serial No. 252,676, Feb. 7, 1928. Application for reissue April 16, 1937, Serial No. 137,324. 31 Claims.

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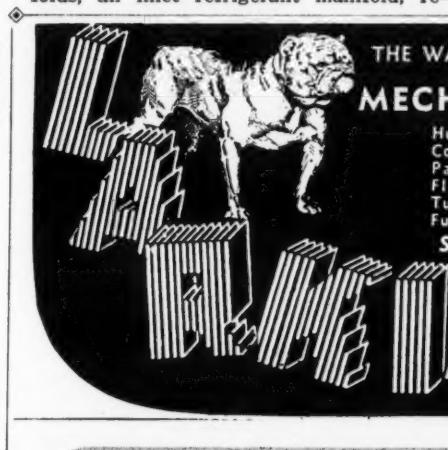
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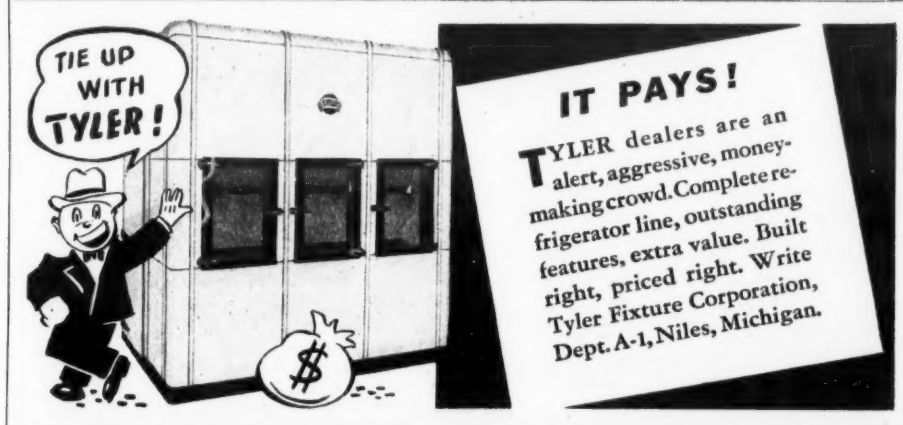
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PRP Requirements for 4th Quarter Returned To Applicants for Revision of Estimates

WASHINGTON, D. C.—Authorizations to receive materials for the fourth quarter of 1942 under the Production Requirements Plan are now being returned to applicants with changes in requests for materials conforming with determinations made by the WPB's Requirements Committee, announces Donald M. Nelson. All materials authorizations for the quarter will be covered by preference ratings in the AA series, and a new AA-5 rating has been established to be applied in certain instances.

Mr. Nelson at the same time reports that the PRP application forms for the first quarter of 1943 have been approved and will be mailed out as soon as they are received in quantity from the printer. According to the schedule for this January-March 1943 quarter, applications for materials are to be received and certificates of authorization returned to applicants some time before the quarter begins.

Balanced in advance for the first time, total raw material authorizations for military and non-military production in the fourth quarter of 1942 have been kept within the limits of the materials supply estimated by the Requirements Committee.

To adjust requirements to match the available supply, it was necessary to cut-back requests of companies under the PRP, from a moderate amount in the case of direct military items, to a substantial amount in the case of less essential items.

In arriving at cut-backs, certain basic principles were followed in all cases. They included:

1. Total requests were kept within total supply.
2. End-use of the product was considered, so that items most urgently needed received the least reduction.
3. Inventory of materials was considered so that reduction in requests was possible where companies had enough stock on hand to allow the cuts.
4. Reductions in requests for other materials were considered in making final allocation of one particular material, so that each individual cut was as nearly as possible in proper proportion to the others.

An example of the problem encountered in making authorizations is shown in the allocation of carbon steel. When all requests for the material were added up, it was found that the needs of the companies using this type of metal were estimated at 15,400,000 tons for the fourth quarter. This total included the tonnage required by companies under PRP and the tonnage set aside for use by those not under this system. Export requirements were not included in the 15,400,000-ton total.

Since the estimated supply, after allowing an amount for export and a reserve for contingencies, is 11,100,000 tons, it was necessary to cut the requests by 4,300,000 tons.

The first reduction was made among items not of direct military use. These included large quantities of sewing machines, cutlery, etc., on order for the armed forces. The armed services themselves take the responsibility of making cuts in direct military requirements.

Among non-military items, those products most essential to civilian economy were cut less, while some were slashed or almost entirely eliminated.

With the authorizations, Ernest Kanzler, WPB's director general for operations, sends a letter touching on deliveries, inventories, and a request to "refigure your labor requirements in the light of material authorization contained in your PRP certificates."

Contrary to recent reports of sudden changes to be made in the PRP, Mr. Kanzler maintains that the plan will continue to operate through the fourth quarter of 1942, and with modifications, through the first quarter of 1943. It is understood, according to Mr. Kanzler, that industry will be appraised well in advance of the more comprehensive modifications that will be made for the second quarter of 1943.

PRP Requires Constant Modification, Kanzler Says

WASHINGTON, D. C.—"The Production Requirements Plan, designed to control essential critical materials, will now require constant evolution and modification due to the increasing scope of the war effort," Ernest Kanzler, Director General for Operations, stated in a letter to all companies receiving approved P.R.P. certificates for the fourth quarter of 1942.

"Such evolutionary modifications," he continued, "are now being studied by the War Production Board in consultation with representatives from industry. Any sudden change would have a disastrous effect on war production.

"The production requirements plan now in effect will continue, therefore, through the fourth quarter and, with some important modifications through the first quarter of 1943.

"A more complete modification will be possible for the second quarter of 1943. Industry will be informed well in advance of contemplated changes."

Relief from Certain WPB Orders Available in Field

WASHINGTON, D. C.—Manufacturers of household refrigeration equipment are among those producers required to file exclusively in field offices of the War Production Board all appeals for relief from restrictions imposed by certain WPB orders, according to terms of Priorities Regulation No. 16, effective this month.

Orders pertinent to this industry which are listed in Appendix A of the regulation as those which must be filed only through field offices are

L-5-c Domestic mechanical refrigerators

L-6-c Domestic laundry equipment

L-18-b Domestic vacuum cleaners.

The new regulation states that specific forms named in Appendix A must be used for filing such appeals.

Schuster Heads Appliance Dealers in Cincinnati

CINCINNATI—John Schuster, head of Schuster Electric Co., appliance dealership here, was named head of the major appliance division of the Cincinnati Electrical Association at the annual meeting. Other officers elected are: Tom Williams, Tri-State Distributing Corp., vice president; A. J. Gies, Gies, Inc., secretary, and E. Guy Flaig, Crosley Distributing Corp., treasurer.

Export Orders Are Given Preference Rating by M-148

WASHINGTON, D. C.—As a part of current moves to centralize control of materials distribution in the WPB, deliveries for export under General Exports Order M-148 have been made subject to the assignment of preference ratings, by the order as amended Sept. 28 by the Director General for Operations.

The General Exports Order as amended provides that an order from the holder of an export license issued by the Board of Economic Warfare shall be filled in accordance with the preference rating assigned to the order by BEW. Specific authority to assign such ratings for definite amounts of materials will be delegated to BEW by the Director General for Operations.

Quotas of material for export to foreign countries will continue to be assigned as before by the Requirements Committee and export licenses and preference ratings covering the materials in these quotas will be issued by the Board of Economic Warfare. BEW will continue to be responsible for determining the amounts which will go to individual countries and individual purchasers within the assigned quotas.

The amendment also removes restrictions contained in WPB limitation orders, insofar as they might apply to inventory or use in foreign countries of material rated by BEW.

Non-Electric Cooking Equipment for Commercial Establishments Controlled

WASHINGTON, D. C.—Non-electric cooking equipment used in restaurants, hotels, cafeterias, and similar establishments, was put under strict production and distribution control Oct. 1 by the War Production Board, in a new order, L-182. Production and delivery of electrically-operated equipment had already been curtailed by WPB restrictions.

Beginning Oct. 1, production of certain types of non-electric equipment was completely prohibited. On the same day, manufacturers of other specified types of equipment were required to cut their use of iron and steel by 75%, based on 1941 production, for both new merchandise and repair parts. This provision of the order, however, does not apply to orders of the Army, Navy, Maritime Commission, War Shipping Administration, and the Defense Plant Corp.

Sale of both new and used cooking equipment to restaurants, cafeterias, cafes, etc., was prohibited almost without exception in the WPB order. Such sales are to be permitted only with specific authorization of the Director General for Operations, and only in the most essential cases. Authorization must be applied for on Form PD-638 A. Again, deliveries to specified government agencies are not covered by the provision.

Included in the list of non-electric items of which production is entirely stopped as being non-essential are barbecue machines, chicken singers, chop suey ranges, cruller fryers, cup warmers, dish warmers, egg boilers, nut blancher ovens, nut fryers, nut roasters, oyster stoves, peanut roasters, plate warmers, potato chip fryers, roll warmers, rotisseries, sausage warmers, waffle irons, and warming ovens. Repair and replacement parts can continue to be made for these, however.

Among the items affected by restrictions on iron and steel are bakers, broilers, fryers, griddles, grills, hot plates, ovens (except built-in type), ranges, roasters, steamers, toasters, urns, and warmers. Only equipment operated by coal, wood, oil, gas, or other non-electric fuel is covered in this order, and household cooking appliances are not affected.

One allowance made by Order L-182 is re-sale, without restriction, of cooking equipment by the "ultimate consumer" to dealers, distributors, or manufacturers. An "ultimate consumer" is defined in the order as "any person who uses commercial cooking and food and plate warming equipment for the heating of kitchen utensils or plates, or for the cooking or baking of food for consumption or sale."

Under the new order, every manufacturer, dealer, and distributor of any commercial cooking and food and plate warming equipment must file reports of inventories with the WPB on the tenth of each month. Form PD-638 is to be used for the report.

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